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BOTANICAL SERIES

FIELD MUSEUM OF NATURAL HISTORY
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VOLUME XVII NUMBER 2

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STUDIES OF AMERICAN PLANTS—VII

BY

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STUDIES OF AMERICAN PLANTS—VII

Paul C. Standley

Since publication of the sixth number of this series (in 1936) there have reached Field Museum, from diverse sources, extensive series of plants for determination, chiefly from Mexico, Central America, and various parts of South America. Coming from regions little known botanically, some of these collections quite naturally have yielded many plants that are very clearly or presumably new. Upon the following pages a few of these new species are described.

The largest number of the species described belong to the economically important Moraceae, and are the result of study of the complete series of this family obtained by Mr. B. A. Krukoff during his several extended expeditions to the Amazon Valley. Except for studies of the group by Dr. Adolpho Ducke, based upon his own intensive exploration of Amazonia, the Moraceae have received scant attention in recent years, therefore it is not surprising that the Krukoff collections contained a large number of new trees, especially in such groups as *Ficus*, *Pourouma*, and *Coussapoa*, that have received less attention than genera like *Brosimum* and its relatives.

Several other large sendings are represented here by new species. Especially rich in this respect is the well prepared and annotated series of specimens obtained in the State of Boyacá, Colombia, by Mr. Alexander E. Lawrance. It would seem, upon reference to recent monographs, that the vast majority of the Lawrance plants are proving new, and those described here by the writer are only a few of the total number he has indicated as new.

Likewise important is another handsome collection obtained during several seasons by Mr. Howard Scott Gentry in the Río Mayo district of the states of Sonora and Chihuahua, Mexico. Although so much of Mexico has been fairly well explored by botanists, this area seems to have been virgin territory, and Mr. Gentry's material has been found significant, not only for the rather numerous new species it contains, but also because of the dozens of notable extensions of range that it illustrates.

Field Museum has been particularly fortunate in receiving from the University of Texas, through Professor B. C. Tharp, several thousands of specimens from northeastern Mexico. These, too, have

come mostly from new regions, and have added a great deal to our knowledge of distribution of Mexican plants.

There must be mentioned also the extraordinary collection made in the State of Nuevo León, Mexico, in 1935, by Mr. C. H. Mueller, and forwarded for determination to the writer from the Arnold Arboretum, through the courtesy of Dr. Alfred Rehder. A collection so rich as this in novelties proves that much still can be learned about the Mexican flora. In the case of this sending, as with most of the others mentioned, there are published here only a few of the most conspicuous of the many new plants obtained.

MORACEAE

Brosimum caniceps Standl., sp. nov.—Arbor 24-metralis, ramulis teretibus subferrugineis glabratis, novellis subdense minute griseo-sericeis, internodiis brevibus; stipulae caducae triangulari-ovatae usque 5 mm. longae acuminatae extus dense albido-sericeae; folia mediocria breviter petiolata subcoriacea, petiolo 10–13 mm. longo crassiusculo primo minute griseo-sericeo cito glabrato; lamina oblanceolato-oblonga vel obovato-oblonga 8–13 cm. longa 3–4.5 cm. lata abrupte breviter acuminata vel apice rotundata vel truncato-rotundata et in acumen breve acutum subito contracta, basin versus sensim angustata, basi ipsa oblique obtusa vel acuta, supra in sicco sublucida vel opaca scaberula vel fere laevis, nervis pallidis prominulis, subtus paullo pallidior, scaberula vel glabrata, costa gracili elevata, nervis lateralibus utroque latere circiter 9 angulo recto vel paullo latiore adscendentibus subarcuatis prope marginem irregulariter arcuato-conjunctis, venulis teneribus vix elevatis laxe reticulatis; capitula geminata axillaria globosa cana 5–7 mm. diam., pedunculo crassiusculo 6–15 mm. longo ut videtur interdum recurvo dense minute albido-puberulo, bracteis basalibus parvis ovatis acutis vel obtusissimis extus dense minute cano-sericeis, bracteolis peltatis densissime griseo-sericeis vel puberulis, floribus masculis numerosissimis, antheris semiexsertis, flore femineo 1; fructus globosus 1 cm. vel ultra diam. bracteolis persistentibus dense conspersus; semen 1.—Brazil: On terra firma, near mouth of Rio Macauhan, a tributary of Rio Yaco, Territory of Acre, August 9, 1933, *B. A. Krukoff 5378* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.); also *No. 5645*, collected in the same region August 25.

Rather similar to *B. acutifolium* Huber, which has been referred to the segregate genus *Brosimopsis*, but I see no reason for separating the present plant from *Brosimum*. *B. caniceps* is distinguished

principally by having the leaves evidently broadest above the middle, and by its conspicuously whitish flower heads.

Brosimum Krukovii Standl., sp. nov.—Arbor 54-metralis omnino glabra, ramulis teretibus, novellis ferrugineis, cortice cito exfoliante, internodiis brevibus; stipulae ferrugineae angustae fere 2 cm. longae attenuato-acuminatae diutius persistentes; folia inter minora subcoriacea breviter petiolata, petiolo ferrugineo crassiusculo circiter 6 mm. longo; lamina late ovalis vel ovato-ovalis 5–7.5 cm. longa 3–5 cm. lata, apice rotundata vel late rotundata et abrupte in acumen breve obtusum vix ultra 4 mm. longum contracta, basi late rotundata vel truncata, supra plus minusve lucida, costa elevata, nervis vix elevatis, subtus concolor, in sicco interdum brunnescens, costa gracili valde elevata, nervis lateralibus utroque latere circiter 15 pallidis teneris vix elevatis angulo lato divergentibus leviter arcuatis juxta marginem obscure arcuato-junctis, venulis obscuris sed arcte reticulatis; pedunculus fructifer crassus 1 cm. longus et ultra ferrugineus, cortice exfoliante; fructus juvenilis irregulariter subglobosus aliquanto depressus bracteolis peltatis brunnescentibus dense conspersus fere 1.5 cm. latus; semina ut videtur plus quam 1.—Brazil: State of Amazonas, Humayta, near Livramento, Rio Livramento, on terra firma, October–November, 1934, *B. A. Krukoff 6656* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Vernacular name Muiratinga. The relationship is with *B. paraense* Huber, an apparently common tree of the Amazon Valley, which has relatively narrower leaves, obtuse to acutish at the base and with a longer apical acumination, also narrower stipules.

Brosimum myristicoides Standl., sp. nov.—Arbor 21-metralis, ramulis teretibus crassiusculis, novellis ferrugineis minutissime brunneo-puberulo-tomentellis, internodiis breviusculis; stipulae caducae angustae circiter 2 cm. longae longiattenuatae dense brunneo-sericeae; folia breviter petiolata subcoriacea majuscula, petiolo 10–14 mm. longo minutissime puberulo-tomentello; lamina anguste oblonga vel lanceolato-oblonga 9.5–18 cm. longa 3.5–5 cm. lata sensim vel subabrupte acuminata, basi anguste rotundata vel obtusissima, supra lucida glabra laevis, nervis venisque non elevatis, subtus fere concolor, in sicco brunnescens, minutissime inter venulas puberula, costa gracili elevata, nervis lateralibus utroque latere circiter 23 tenerrimis angulo lato abeuntibus fere rectis vel leviter arcuatis juxta marginem irregulariter junctis, venulis subprominulis arctissime reticulatis; pedunculi geminati 6–8 mm. longi crassiusculi

minute puberuli, capitulis globosis, in statu florifero vix ultra 3 mm. diam., floribus masculis sat numerosis, bracteolis peltatis brunnescentibus sparse minutissime puberulis, flore femineo ut videtur 1; fructus immaturus globosus 12 mm. diam. minute scaberulus et bracteolis conspersus.—Brazil: State of Amazonas, Humayta, near Livramento, on Rio Livramento, on terra firma, October–November, 1934, *B. A. Krukoff 6685* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Vernacular name Murure. The long, narrow leaves, conspicuously brownish beneath, are suggestive of those of some species of *Virola* (Myristicaceae).

Brosimum palmarum Standl., sp. nov.—Arbor 27-metralis, ramulis teretibus, novellis fusco-ferrugineis gracilibus minute sparse brunneo-sericeis vel glabratis, internodiis brevibus; stipulae parvae late triangulari-ovatae deciduae vix ultra 4 mm. longae acutae minute sericeae; folia inter minora breviter petiolata firme membranacea, petiolo gracili 8–10 mm. longo sparse sericeo vel fere glabro; lamina oblongo-ovalis 5.5–8.5 cm. longa 3–4 cm. lata apice obtusa vel rotundata et abrupte in acumen obtusiusculum ad 6 mm. longum contracta, basi valde oblique obtusa vel subrotundata, supra lucida glabra, nervis non elevatis, in sicco fusca, subtus multo pallidior, minutissime sparse scaberula, costa gracili prominente, nervis lateralibus utroque latere circiter 10 angulo fere recto abeuntibus teneris fere rectis, remote a margine in nervum irregularem collectivum conjunctis, venulis non elevatis arcte reticulatis; pedunculi geminati 1–2.5 cm. longi graciles sparse minute scaberuli vel fere glabri, capitulis irregularibus sublobatis circiter 1 cm. latis bracteolis paucis magnis brunnescentibus inaequalibus puberulis conspersis.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, on high land, September–October, 1936, *B. A. Krukoff 8546* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.).

This species has much similarity to *B. potabile* Ducke, found in the same region, but that seems to differ sufficiently in its thicker, relatively longer and narrower, long-acuminate leaves, and apparently also in its shorter peduncles.

Coussapoa araneosa Standl., sp. nov.—Frutex vel arbor epiphytica interdum ut dicitur subscandens, ramulis crassis brunneis subdense hirtellis; stipulae dense hirtellae; folia magna longipetiolata firme membranacea, petiolo 4–11 cm. longo et ultra striato brunneo hirtello; lamina late ovata vel cordato-ovata 20–45 cm.

longa 12–27 cm. lata, integra vel undulata, apicem obtusum versus angustata, basi breviter (ad 2 cm.) cordata, sinu fere clauso, vel interdum tantum late rotundata, supra viridis scaberula et asperrima, subtus grisea et ubique araneoso-tomentosa, costa gracili elevata, nervis lateralibus utroque latere circiter 16 angulo semirecto adscendentibus rectis marginem fere attingentibus, venulis transversis creberrimis arcte parallelis hirtellis prominentibus; pedunculi feminei axillares geminati monocephali valde elongati 6–12 cm. longi crassi dense minute hirtelli, capitulis fructiferis didymo-globosis 1.5–2 cm. latis densissime multifloris; fructus dense minutissime tomentellus.—Brazil: State of Amazonas, Humayta, near Tres Casas, on varzea land, September–October, 1934, *B. A. Krukoff 6524* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.); also *No. 6165* from the same region.

Vernacular name Apui. In the type collection the leaves are merely broadly rounded at the base, while in No. 6185 they are deeply and narrowly cordate. It is probable, nevertheless, that the two collections are conspecific, since they seem to differ in no other respect, and agree in the distinctive, cobwebby pubescence of the lower leaf surface.

Coussapoa boliviana Standl., sp. nov.—Ramuli crassi dense sericeo-tomentelli, internodiis brevibus; stipulae 4 cm. longae angustae deciduae dense minute sericeae acutae; folia mediocria longiuscule petiolata subrigide coriacea, petiolo circiter 5 cm. longo striato dense tomentello; lamina subrotunda, elliptico-rotunda vel ovato-rotunda 10–14 cm. longa 8.5–11.5 cm. lata, apice rotundata vel rotundato-obtusa, basi rotundata et subemarginata, supra viridis sparse scaberula asperula, nervis non elevatis, subtus paullo pallidior ubique dense minute hirtella, ad nervos araneoso-tomentosa, costa crassiuscula elevata, nervis lateralibus utroque latere circiter 14 angulo semirecto vel paullo latiore adscendentibus rectis marginem attingentibus, venulis transversis parallelis creberrimis prominulis; pedunculus (unus sejunctus tantum visus) crassus 2 cm. longus dense minute hirtellus, capitulo femineo subgloboso 8 mm. lato densissime multifloro, perianthio dense brunneo-puberulo.—Bolivia: Bosque virgen, Río Víbora, Prov. Ichilo, Depart. Santa Cruz, 350 meters, October, 1926, *José Steinbach 7567* (type in Herb. Field Mus.).

Vernacular name Higo del monte. The type material is rather unsatisfactory, but the form of the leaves is alone sufficient to show that it represents a distinct and apparently unnamed species.

Coussapoa cornifolia Standl., sp. nov.—Arbor 18-metralis, trunco 18 cm. diam., interdum epiphytica, ramulis crassiusculis ferrugineis striatis, novellis sparse strigillosis, internodiis brevibus; stipulae 7–9 mm. longae late ovatae acutae densissime ochraceo-sericeae deciduae; folia inter minora breviter petiolata coriacea, petiolo crassiusculo 5–15 mm. longo fere glabro; lamina oblongo-ovata vel elliptico-ovata 7–14 cm. longa 4.5–6 cm. lata subabrupte longiacuminata vel obtusa et abrupte in acumen breve latum obtusum contracta, basi obtusa vel rotundata, supra sublucida, glabra, costa subimpressa, venulis prominulis, subtus pallidior, ubique minutissime et densissime sub lente puberula atque ut videtur interdum aliquanto glandulosa, costa crassiuscula elevata, nervis lateralibus utroque latere 6–8 angulo semirecto adscendentibus elevatis leviter arcuatis vel fere rectis juxta marginem arcuato-conjunctis, venulis transversis plus minusve arcuatis crebris elevatis; pedunculi axillares geminati 1.5–2 cm. longi, inflorescentiis utriusque sexus laxe paniculatis 2–3 cm. longis et ultra, aequilatis, ramis divaricatis gracilibus sparse vel dense hirtellis, capitulis numerosis longiuscule pedunculatis globosis dense multifloris fere minutis 2–3 mm. tantum diam., perianthio floris feminei glabro; stamina bene exserta, filamento anthera multo longiore; fructus maturus non visus.—Brazil: State of Amazonas, São Paulo de Olivença, basin of Belem Creek, in high forest, October–December, 1936, *B. A. Krukoff 8897* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.); also *Nos. 8658* and *8755* from the same region. Near Palmares in the same region, *Krukoff 8539*.

The four collections cited exhibit some variation but not more, probably, than is to be expected within a species. The plant is noteworthy for the relatively small, mostly acuminate leaves, and the extremely small flower heads.

Coussapoa Eggersii Standl., sp. nov.—Ramuli crassi sparse hispidi; stipulae angustae circiter 4 cm. longae acutae brunnescentes dense tomentellae et sparse pilis albis adpresso-hispidae; folia inter majora petiolata coriacea, petiolo crassiusculo 4.5 cm. longo dense adpresse tomentuloso; lamina late deltoideo-ovata 21 cm. longa 16 cm. lata apice rotundata et brevissime apiculata, basi breviter (vix 1 cm.) cordata, supra glabra vel glabrata opaca laevis puncticulata, subtus in sicco pallide brunnescens ubique dense minute hirtella, ad nervos sparse in statu adulto araneoso-tomentosa, costa gracili elevata, nervis lateralibus utroque latere circiter 13 angulo semirecto vel paullo latiore adscendentibus rectis marginem attingentibus,

venulis transversis creberrimis elevatis leviter arcuatis vel fere rectis; inflorescentiae femineae axillares geminatae breviter pedunculatae petiolum subaequantes, capitulis paucis racemosis breviter crasse pedunculatis densissime multifloris dense minute hirtellis globosis 5–8 mm. latis, pedunculis densissime tomentellis.—Ecuador: El Recreo, *H. F. A. Eggers 14165* (type in Herb. Field Mus.).

Local name Matapalo. Related to the Peruvian *C. hirsuta* Trécul and *C. villosa* Poepp. & Endl.

Coussapoa embirana Standl., sp. nov.—Arbor ut dicitur scandens, ramulis crassis ferrugineis striatis subdense hispido-hirsutis, cicatricibus stipularum valde obliquis et dimidium internodii aequantibus; stipulae latiusculae caducae 6.5 cm. longae dense piloso-sericeae acutae; folia magna longipetiolata firme coriacea, petiolo crasso circiter 8 cm. longo breviter hispido; lamina rotundato-ovata circiter 23 cm. longa atque 18 cm. lata obtusissima, basi subcordata vel subtruncata, undulato-subcrenata, supra in sicco pallida opaca scaberula tactu asperula, nervis non elevatis, subtus concolor, brunnescens, tactu aspera, ubique scaberula, praesertim in statu juvenili ad nervos araneoso-tomentosa, costa crassa elevata, nervis lateralibus utroque latere circiter 16 angulo paullo latiore quam recto adscendentibus rectis marginem attingentibus, venulis transversis creberrimis subarcuatis prominulis; inflorescentiae masculae axillares geminatae 3 cm. longe pedunculatae petiolo breviores paniculatae 3 cm. longae, pedunculo tomentello et hispido, capitulis paucis longiuscule pedunculatis subglobosis circiter 6 mm. latis densissime pilosulis, antheris breviter exsertis.—Brazil: State of Amazonas, near mouth of Rio Embira, a tributary of Rio Tarauaca, Basin of Rio Juruá, on varzea land, June 26, 1933, *B. A. Krukoff 4994* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

Vernacular name Apiu. Although having no particularly outstanding characters, except perhaps the hirsute pubescence of the branches, this *Coussapoa* does not agree with any of the known species of the Amazonian Basin.

Coussapoa ficina Standl., sp. nov.—Arbor 11-metralis, trunco 12 cm. diam.; stipulae triangulares caducae 12 mm. longae acutae densissime hispidulo-pubescentes ferrugineae; folia inter majora petiolata coriacea, petiolo crassiusculo 5–6 cm. longo ferrugineo striato minutissime sparse tomentello; lamina late rotundo-ovata vel late ovali-ovata circiter 20 cm. longa atque 16 cm. lata, apice anguste rotundata, basi rotundata et breviter (vix ad 1 cm.) cordata,

supra in sicco fusco-brunnescens aspera minute scaberula, nervis non elevatis, opaca, subtus multo pallidior, tactu mollis, ubique minute puberula, costa crassiuscula elevata, basi 7-nervia, nervis lateralibus utroque latere circiter 6 angulo semirecto adscendentibus fere rectis marginem fere attingentibus, venulis transversis remotis valde irregularibus arcuatis venulis prominulis arcte reticulatis connexis; inflorescentiae femineae axillares geminatae petiolo duplo breviores breviter pedunculatae, capitulis vulgo 3 subglobosis 1 cm. et ultra diam., densissime multifloris, breviter pedunculatis, perianthio glabro, pedunculis crassis dense brunneo-tomentellis.—Brazil: State of Amazonas, Manaos, along the road to Aleixo, August–September, 1936, *B. A. Krukoff 7966* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

The large leaves are rather suggestive of those of certain species of *Ficus*. They are distinctive in outline and pubescence.

Coussapoa Froesii Standl., sp. nov.—Frutex epiphyticus scandens vel subscandens, ramulis crassiusculis teretibus ferrugineis glabris, internodiis brevibus; stipulae non visae; folia majuscula petiolata firme coriacea, petiolo crasso fusco 2.5–4.5 cm. longo striato glabro; lamina rotundato-elliptica vel rotundato-ovata 13.5–16 cm. longa 10.5–14.5 cm. lata, apice rotundata vel obtusissima, basi rotundata vel emarginata, utrinque glabra laevis, supra opaca, nervis venisque prominulis, subtus fere concolor, in sicco aliquanto brunnescens, basi 7-nervia, costa crassa elevata, nervis lateralibus utroque latere circiter 5 angulo semirecto vel paullo angustiore adscendentibus leviter arcuatis vel fere rectis marginem fere attingentibus, venulis transversis subremotis arcuatis vix prominulis; inflorescentia feminea parva petiolo triplo brevior breviter pedunculata paniculata, capitulis paucis vix 2 mm. crassis globosis paucifloris densis, perianthio glabro, ramis gracillimis hirtellis, capitulis graciliter longiuscule pedunculatis.—Brazil: State of Maranhão, on terra firma, Mata da Cachoeira, Maracassumé River region, September 14, 1932, *R. Froes 1907* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

Noteworthy for the absence of pubescence on the branches and leaves.

Coussapoa hypochlora Standl., sp. nov.—Arbor 15–21-metralis, ramulis crassissimis teretibus pallidis in statu juvenili minute adpresse pallido-tomentellis, internodiis brevibus; stipulae latae 3.5 cm. longae ferrugineae acutae minute tomentellae vel glabratae

caducae; folia magna longipetiolata crasse membranacea, petiolo gracili 4–11 cm. longo canaliculato fere glabro sed versus apicem sparse hirsuto; lamina rotundo-elliptica circiter 25 cm. longa atque 18 cm. lata, apice rotundata et brevissime emarginata, basi anguste rotundata, supra in sicco fusco-viridis laevis, tantum ad nervos sparse breviter hirsuta, aliter glabra, sublucida, venulis prominulis, subtus fere concolor, viridis, in statu juvenili ad nervos sparse breviter hirsuta aliter sparse hirtella, cito glabrata laevis, basi 5-nervia, costa gracili elevata, nervis lateralibus utroque latere circiter 6 angulo paullo angustiore quam recto adscendentibus rectis, venulis transversis subremotis irregularibus paullo arcuatis venulis ultimis arcte reticulatis connexis; inflorescentiae masculae laxe paniculatae axillares geminatae petiolum fere aequantes, pedunculo usque 5 cm. longo minute puberulo, paniculis ad 5 cm. longis et aequilatis, ramis dense puberulis, capitulis numerosissimis globosis vel didymo-globosis circiter 5 mm. latis, bracteolis peltatis brunneis fere glabris, pedunculis brevibus.—Colombia: Region of El Humbo, State of Boyacá, 1,140 meters, in high forest, May 19, 1933, *A. E. Lawrance 810* (type in Herb. Field Mus.).

Vernacular name Caraco. Flower heads cream-colored; a black sap flows freely from the limbs when cut. The species is well distinguished by the thin, long-petiolate leaves which are green on the lower surface.

Coussapoa Krukovii Standl., sp. nov.—Arbor 15-metralis, trunco 15 cm. diam., ramulis crassis, internodiis brevibus, cicatricibus stipularum vix obliquis, novellis minute sericeo-tomentellis et sparse hirsutulis; stipulae angustae 7 cm. longae caducae ferrugineae attenuatae extus dense strigosae et albido-tomentosae, intus adpresso-hispidulae; folia majuscula longipetiolata coriacea, petiolo fusco 6–7 cm. longo striato albo-tomentoso; lamina late deltoideo-ovata 14–19 cm. longa 10–13 cm. lata obtusa et breviter apiculata, basi late rotundata vel interdum tantum obtusa, supra in sicco opaca asperrima scabra in sicco brunnescens, nervis subimpressis, subtus albida, ubique dense adpresse albo-tomentosa, ad venulas hispidula, basi 5-nervia, costa gracili elevata, nervis lateralibus utroque latere circiter 15 angulo semirecto adscendentibus rectis marginem attingentibus, venulis transversis creberrimis fere rectis prominentibus, margine obscure undulato-crenato; inflorescentiae masculae petiolo aequilongae vel paullo longiores laxe paniculatae 3–4 cm. longe pedunculatae, ramis gracilibus dense minute velutino-pilosulis,

pedunculis usque 8 mm. longis, capitulis numerosis globosis circiter 5 mm. latis dense ochraceo-hispidulis, antheris bene exsertis.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, on high land, September–October, 1936, *B. A. Krukoff 8223* (type in herb. N.Y. Bot. Gard.; photo. and fragment in Herb. Field Mus.).

Coussapoa Lawrancei Standl., sp. nov.—Arbor 30-metralis, ramulis crassis teretibus ferrugineis pilis longis patentibus hirsutis, internodiis brevibus; stipulae angustae caducae 5 cm. longae dense pilis longis albidis et nigrescentibus intermixtis hirsutae acuminatae; folia magna longipetiolata crasse coriacea, petiolo gracili ferrugineo striato 6–8.5 cm. longo sparse hirsuto; lamina elliptico-ovata vel oblongo-elliptica 17–21 cm. longa 9.5–12.5 cm. lata obtusa vel apice anguste rotundata, basi rotundata et interdum leviter emarginata, supra in sicco griseo-viridis laevis opaca glabra, nervis venisque non elevatis, subtus fere concolor, sparse laxe arachnoideo-tomentosa vel glabrata, basi 5–7-nervia, nervis lateralibus utroque latere circiter 16 angulo semirecto adscendentibus rectis marginem attingentibus, venulis transversis remotiusculis undulatis venulis ultimis prominentibus arctissime reticulatis connexis, margine integro vel subundulato; inflorescentia mascula laxe paniculata petiolo duplo brevior pedunculata, ramis ferrugineis gracilibus dense hirtellis et sparsius hirsutis, pedunculis gracilibus usque 13 mm. longis, capitulis paucis subglobosis ad 8 mm. latis brunneis hirtellis, antheris bene exsertis.—Colombia: In high forest, El Humbo, State of Boyacá, 900 meters, April 26, 1933. *A. E. Lawrance 769* (type in Herb. Field Mus.).

Local name Caraco. "Freshly cut stems are hollow and contain a white, gummy substance. The outer ring of bark turns black after being cut." The species is noteworthy for the abundant, hirsute pubescence.

Coussapoa Lehmannii Standl., sp. nov.—Folia inter maxima; petioli crassi ferruginei striati sparse puberuli vel glabrati; lamina late ovata 28–35 cm. longa 19–26 cm. lata apice obtusa vel anguste rotundata et brevissime apiculata, basi late rotundata, subcoriacea, supra in sicco fusca opaca laevis glabra, nervis non elevatis, subtus brunnescens, ubique dense patenti-pilosa, sparse brunneo-arachnoideo-tomentosa, basi 7-nervia, nervis lateralibus utroque latere circiter 14 angulo semirecto adscendentibus rectis marginem attingentibus, venis transversis crebris undulatis prominentibus venulis ultimis arcte reticulatis prominulis connexis; capitula feminea axillaria geminata crasse 3 cm. longe pedunculata didymo-globosa 1.5

cm. lata densissime multiflora, perianthio dense minute hirtello, pedunculo dense puberulo.—Ecuador: Chacayacu, western Andes of Cuenca, 200–800 meters, *F. C. Lehmann 5606* (type in Herb. Field Mus.).

Coussapoa orthoneura Standl., sp. nov.—Arbor 11–33-metralis, trunco 10–22 cm. diam., ramulis crassis ferrugineis subangulatis sparse minute strigillosis vel fere glabris, internodiis brevibus, cicatricibus stipularum paullo obliquis; stipulae latiusculae fere 2 cm. longae ferrugineae acuminatae caducae dense sericeae; folia inter minora petiolata firme coriacea, petiolo 1.5–4 cm. longo sparse sericeo vel glabrato; lamina oblongo-obovata 7–13.5 cm. longa 3.5–6.5 cm. lata acuta vel subacuta, rarius obtusa, basin versus paullo angustata, basi ipsa obtusa vel anguste rotundata, supra in sicco brunnescens opaca laevis glabra, nervis vix elevatis, subtus fere concolor, in statu juvenili ut videtur laxe arachnoideo-tomentosa sed cito glabrata, ad nervos sparse sericea sed in statu adulto fere omnino glabra, basi 3-nervia vel obscure 5-nervia, costa gracili elevata, nervis lateralibus utroque latere 5 angulo angustiore quam recto adscendentibus prominentibus rectis marginem attingentibus, venulis transversis obscuris vix elevatis, margine integro vel apicem versus paullo undulato-crenato; inflorescentiae laxe paniculatae axillares geminatae petiolum aequantes vel longiores, ramis puberulis vel breviter pilosis; capitula mascula numerosissima graciliter pedunculata vix ultra 2 mm. diam., perianthio glabro, antheris subexsertis; capitula feminea pauca, vulgo 3, interdum 1 tantum, globosa glabra usque 8 mm. lata, breviter crasse pedunculata.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, on high land, September–October, 1936, *B. A. Krukoff 8518* (pistillate; type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.). Also *No. 8967* (staminate) from the same general region, basin of Belem Creek.

Remarkable for the small, narrow leaves with few, strongly ascending nerves.

Coussapoa parvifolia Standl., sp. nov.—Arbor epiphytica, ramulis subgracilibus, novellis dense foliatis ferrugineis sparse minute strigillosis vel glabratis, cicatricibus stipularum paullo obliquis; stipulae (bene evolutae non visae) angustae breves acutae dense fulvo-sericeae caducae; folia parva breviter petiolata coriacea, petiolo 7–15 mm. longo crassiusculo fere glabro; lamina lanceolato-oblongo 5–8 cm. longa 1.7–3 cm. lata subabrupte acuta vel acumi-

nata, acumine ipso obtuso, basin versus paullo angustata, basi ipsa anguste rotundata, supra in sicco subgrisea glabra laevis, nervis non elevatis, subtus pallidior, tactu mollis, ubique minutissime puberula, basi trinervia, nervis lateralibus utroque latere circiter 7 angulo angustiore quam recto adscendentibus fere rectis marginem attingentibus, venulis transversis crebris irregularibus venulis ultimis prominulis arcte reticulatis connexis, margine integro; capitula feminea axillaria geminata 1–1.5 cm. longe pedunculata subglobosa 7 mm. lata dense multiflora, perianthio glabro, pedunculo crassiusculo scaberulo vel fere glabro.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, in high forest, September–October, 1936, *B. A. Krukoff 8273* (type in herb. N. Y. Bot. Gard.).

This has perhaps the smallest leaves of any species of the genus.

Coussapoa rhamnoides Standl., sp. nov.—Arbor epiphytica, ramulis crassis teretibus transverse annulatis fusco-ochraceis, cicatricibus stipularum paullo obliquis, novellis ut videtur glabris vel fere glabris apice dense foliatis; stipulae caducae triangulares ferrugineae 13 mm. longae acuminatae extus dense puberulo-tomentellae; folia mediocria petiolata coriacea, petiolo gracili 1.5–3.5 cm. longo fere omnino glabro; lamina elliptico-obovata vel ovali-obovata 8–13 cm. longa 5–8.5 cm. lata, apice rotundata atque brevissime late emarginata, basin versus paullo angustata, basi ipsa anguste rotundata et interdum obscure emarginata, supra in sicco fusco-brunnescens sublucida glabra laevis, venulis prominulis et arctissime reticulatis, subtus fere concolor saltem in statu adulto omnino glabra, basi 3-nervia, nervis lateralibus utroque latere 4–5 angulo semirecto adscendentibus leviter arcuatis in marginem desinentibus, venulis transversis crebris undulatis prominentibus venulis ultimis prominulis laxe reticulatis connexis, margine versus apicem paullo undulato; inflorescentiae femineae laxe paniculatae petiolum fere aequantes 1.5 cm. longe pedunculatae, ramis minutissime puberulis, capitulis paucis globosis 5–6 mm. diam. crasse pedunculatis, perianthio fere glabro.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, varzea land, September–October, 1936, *B. A. Krukoff 8406* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.).

Well marked by the glabrous, somewhat obovate, few-nerved leaves which are rounded and very shallowly emarginate at the apex.

Coussapoa subcrenata Standl., sp. nov.—Arbor vel arbuscula subscandens epiphytica, ramulis crassis subteretibus ferrugineis striatis, cicatricibus stipularum valde obliquis, internodiis brevibus,

novellis sparse hirtellis vel fere glabris; stipulae angustae caducae 2.3 cm. longae acutae dense hispidulae; folia mediocria petiolata coriacea, petiolo gracili ferrugineo striato 2.5–5.5 cm. longo dense breviter hirtello; lamina late elliptico-ovata vel rotundato-ovata 9–17 cm. longa 6.5–13 cm. lata obtusa, basi late rotundata vel interdum anguste rotundata et leviter emarginata, supra in sicco subgrisea tactu asperula opaca sparse scaberula, venulis non elevatis sed interdum subimpressis, subtus pallidior, primo dense arachnoideotomentosa et albescens, serius plus minusve glabrata, basi 5–7-nervia, nervis lateralibus utroque latere circiter 10 rectis angulo semirecto adscendentibus marginem attingentibus, venulis transversis creberrimis fere rectis prominentibus, margine leviter undulatocrenato; inflorescentiae masculae laxe paniculatae petiolum fere aequantes, 1.5–2 cm. longe pedunculatae, ramis minute hirtellis, capitulis paucis globosis 4–5 mm. diam. graciliter pedunculatis, bracteolis dense puberulis brunneis, antheris longe exsertis.—Brazil: State of Amazonas, Paleta, Municipality of Teffe, valley of Rio Solimoes, on varzea land, May 21, 1933, *B. A. Krukoff 4518* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Ficus andicola Standl., sp. nov.—Ramuli crassi ferruginei striati, novellis sparse hirtellis vel glabratis, internodiis brevibus vel elongatis; stipulae caducae ferrugineae triangulares acuminatae 1.5 cm. longae; folia mediocria petiolata crasse coriacea, petiolo crasso 1–2.5 cm. longo glabro; lamina oblonga vel obovato-oblonga 7–12.5 cm. longa 3–6.5 cm. lata, apice obtusa vel rotundata, basi obtusa, truncata vel saepius emarginata vel leviter cordata, glabra, supra sublucida in sicco fusco-brunnescens, venulis prominulis reticulatis, subtus fere concolor, costa crassa prominente, nervis lateralibus utroque latere circiter 13 angulo lato divergentibus fere rectis remote a margine arcuato-conjunctis; receptacula axillaria sessilia geminata globosa 7–8 mm. diam. glabra ut videtur maculata, ostiolo fere plano, involucro bilobato, lobis glabris apice rotundatis circiter 4 mm. longis.—Colombia: Highlands of Popayán, 1,500–2,000 meters, *F. C. Lehmann 5807* (type in Herb. Field Mus.).

This is closely related to *F. Archeri*, and perhaps not really distinct, especially since both come from the same general region. However, *F. andicola* seems to differ sufficiently in its larger leaves with clearly more numerous lateral nerves.

Ficus Archeri Standl., sp. nov.—Ramuli crassi fusco-brunnei glabri, internodiis brevibus; stipulae late triangulares 1.5 cm. longae

acuminatae caducae glabrae; folia inter minora breviter petiolata crasse coriacea, petiolo crasso circiter 1 cm. longo; lamina oblongo-obovata vel elliptico-oblonga 6–9 cm. longa 3–4.5 cm. lata, apice rotundata vel obtusissima, basin versus paullo angustata, basi ipsa late vel anguste rotundata, glabra, supra lucida, nervis venisque prominulis, in sicco griseo-viridis, subtus paullo pallidior, costa crassa elevata, nervis lateralibus utroque latere circiter 7 angulo latiusculo adscendentibus fere rectis remote a margine irregulariter arcuato-junctis, venulis prominulis laxe reticulatis; receptacula axillaria geminata sessilia globosa 1 cm. diam. glabra, ut videtur rubro tincta, ostiolo paullo elevato, involucro bilobato glabro, lobis circiter 5 mm. longis apice rotundatis.—Colombia: Popayán, Dept. El Cauca, May 7, 1935, *W. A. Archer 3369* (type in Herb. Field Mus.; duplicate in U. S. Nat. Herb.).

The leaves are distinctive in shape and venation, and remarkable for their thick texture and lustrous surface.

Ficus Eliadis Standl., sp. nov.—Arbor 5–8-metralis interdum epiphytica, ramulis crassis teretibus ochraceis vel brunneis, internodiis brevibus, novellis glabris vel glabratis; stipulae (perfecte evolutae non visae) caducae triangulares 7 mm. longae vel ultra densissime pilis longis fulvis subadpressis indutae; folia mediocria longipetiolata subcoriacea, petiolo gracili glabro 2–6 cm. longo; lamina late elliptica vel late ovalis 7–11 cm. longa 4.5–8.5 cm. lata, apice obtusa vel interdum rotundata, basi truncata vel rotundata, interdum late obtusa, glabra, supra griseo-viridis, opaca, subtus fere concolor, costa crassa pallida prominente, nervis lateralibus utroque latere 7–8 angulo lato abeuntibus teneris fere rectis prope marginem irregulariter arcuato-conjunctis, venulis obscuris vix elevatis laxe reticulatis; receptacula axillaria geminata circiter 3 mm. longe pedunculata globosa 8–13 mm. diam. glabra ut videtur viridia, ostiolo paullo depresso, involucro parvo extus sparse breviter piloso bilobato, lobis apice rotundatis vix ultra 3 mm. longis.—Colombia: Guájaro, region of Barranquilla, March, 1935, *Brother Elias 1290* (type in Herb. Field Mus.). Puerto Colombia, January, 1935, *Elias 1421*. Salgar, Puerto Colombia, January, 1935, *Elias 1377*.

Local name Matapalo. A species of no outstanding characters, but I have been unable to associate it with any reported from the northern coast of South America. It is dedicated to the collector, who has forwarded to Field Museum an invaluable series of material illustrating the flora of the Barranquilla region.

Ficus frondosa Standl., sp. nov.—Arbor epiphytica omnino glabra, ramulis crassis in sicco obtuse angulatis pallide brunneis, novellis lineolatis; stipulae perfectae non visae, 1 cm. longae et ultra, acuminatae, caducae; folia magna petiolata coriacea, petiolo crassiusculo 2.5–5 cm. longo; lamina oblonga vel anguste oblonga 25–28 cm. longa 9–11 cm. lata, apice rotundata vel obtusa et in acumen angustum acutiusculum 1–1.5 cm. longum contracta, basi rotundata vel obtusa, supra in sicco lucida viridis, nervis venisque prominulis, subtus brunnescens opaca, costa gracili valde elevata, nervis lateralibus utroque latere circiter 14 angulo latiusculo abeuntibus rectis remote a margine in nervum collectivum irregularem conjunctis, nervo secundario inter paria nervorum primariorum inserto et eis parallelo sed paullo teneriore, venulis prominulis arcte reticulatis; receptacula axillaria geminata crasse 4 mm. longe pedunculata globosa vel obovoideo-globosa fere 1 cm. lata glabra lineolis parvis atrorubris notata, ostiolo depresso magno phyllis 2 clauso, involucro fere 5 mm. lato non obvie bilobato ambitu irregulari.—Brazil: State of Amazonas, São Paulo de Olivença, basin of Belem Creek, in high forest, October–December, 1936, *B. A. Krukoff 8677* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.).

The very large, almost perfectly oblong leaves are distinctive. The receptacles as well as the involucre are covered with what appear to be irregular, dark reddish lines, which may, however, be the remains of weak trichomes.

Ficus Gameleira Standl., sp. nov.—Arbor 15-metralis, trunco 12 cm. diam., ramulis crassis fuscis teretibus dense annulatis apice dense foliatis, novellis dense hirsutis; stipulae non visae; folia majuscula petiolata crasse coriacea, petiolo crassiusculo 2–2.5 cm. longo hirsuto fusco-ferrugineo; lamina late cuneato-obovata vel ovali-obovata 10–15 cm. longa 7–9.5 cm. lata apice late rotundata, basin versus paullo angustata, basi ipsa obtusa vel anguste rotundata, supra in sicco griseo-viridis glabra, nervis venisque non elevatis, opaca, subtus fere concolor ochraceo-brunnescens, glabra vel tantum prope basin costae sparse hirsuta, costa crassa elevata, nervis lateralibus utroque latere circiter 10 angulo lato divergentibus elevatis fere rectis prope marginem irregulariter junctis, venulis obscuris vix prominulis laxe reticulatis; receptacula axillaria geminata magna crasse 4–5 mm. longe pedunculata globosa 2 cm. et ultra diam. dense minute tomentella, ostiolo magno paullo elevato, involucro bilobato 2 cm. longo, lobis apice rotundatis utrinque dense sericeis.—Brazil:

State of Maranhão, Maracassumé River region, Mata da Cachoeira, on sandy soil, terra firma, October 14, 1932, *R. Froes 1938* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.).

Local name Gameleira. The relationship is evidently with *F. Urbaniana* Warb., which ranges from the West Indies to Peru. It, however, lacks the hirsute pubescence so characteristic of the Brazilian tree.

Ficus Gleasonii Standl., sp. nov.—Arbor ut dicitur parva omnino glabra, ramulis crassiusculis fuscis vel ochraceis striatis, internodiis brevibus; stipulae anguste triangulares caducae acuminatae vix ultra 7 mm. longae ferrugineae; folia parva petiolata crasse coriacea, petiolo crasso 7–15 mm. longo; lamina anguste elliptico-oblonga, elliptico-oblonga, elliptico-oblanceolata, rare fere lineari-lanceolata, 5.5–12 cm. longa 2–4.5 cm. lata, rare 1 cm. tantum lata, acuta vel obtusa, rare abrupte breviter obtuso-acuminata, basi acuta vel obtusa, opaca, supra in sicco saepe griseo-viridis, nervis venisque non elevatis, subtus vulgo brunnescens, costa crassa elevata, nervis lateralibus utroque latere circiter 11, aliis intermediis parallelis paullo tenerioribus interpositis, angulo latiusculo abeuntibus fere rectis versus marginem arcuato-junctis, venulis vulgo prominulis et laxe reticulatis; receptacula axillaria geminata vel interdum fasciculata parva 2–4 mm. longe crassiuscule pedunculata, globosa glabra interdum maculata plerumque 5–6 mm. diam., ostiolo fere plano, involucro parvo bilobato vix ultra 3 mm. lato, lobis apice rotundatis glabris.—British Guiana: Upper Mazaruni River, September–October, 1922, *J. S. De La Cruz 2396* (type in Herb. Field Mus.), *2359*. Kamakusa, upper Mazaruni River, *De La Cruz 4137, 2870*. Assakatta, Northwest District, *De La Cruz 4267*. Upper Rupununi River, near Dadanawa, *De La Cruz 1558*. Wismar, *Persaud 7*. Comaka, Demerara River, riverside and woods, *Persaud 228*.

Local names Bird fig and Kumaka-balli. The specimens show considerable variation, especially in leaf outline, but I am inclined to believe that all are conspecific, unless it may be *De La Cruz 4137*, which is distinguished by its extremely narrow leaves.

Ficus Haughtii Standl., sp. nov.—Frutex vel arbor epiphytica omnino glabra, ramulis crassiusculis, internodiis brevibus; stipulae angustae attenuatae caducae 1 cm. longae vel ultra; folia mediocria breviter petiolata papyracea, petiolo crassiusculo 1–2.5 cm. longo; lamina anguste oblanceolato-oblonga 11–16 cm. longa 3.5–5 cm. lata,

apice obtusa et abrupte in acumen angustum attenuatum acutum fere 1 cm. longum contracta, basin versus longe sensim attenuata, basi ipsa cuneato-obtusa, supra in sicco viridis opaca densiuscule albido-puncticulata, nervis prominulis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere circiter 13, altero paullo teneriore parallelo inter paria interjecto, angulo latiusculo divergentibus fere rectis prope marginem irregulariter arcuato-conjunctis, venulis inconspicuis prominulis laxe reticulatis; receptacula axillaria geminata sessilia globosa sparse minute puberula vel fere glabra circiter 8 mm. diam., ostiolo paullo elevato majusculo, involucro fere 5 mm. lato bilobato, lobis apice rotundatis extus glabris.—Colombia: Department of Sur de Santander, Camp Zarzal, vicinity of Barranca Bermeja, Magdalena Valley, 100–500 meters, December 15, 1934, *Oscar Haught 1466* (type in Herb. Field Mus.; duplicate in U. S. Nat. Herb.).

Said to be known by the name Nisperillo, and to be tapped for rubber. The long, narrow leaves, gradually tapering toward the base, are characteristic for the species.

Ficus Krukovii Standl., sp. nov.—Arbor 27-metralis glabra, trunco 20 cm. diam., ramulis brunneis crassiusculis in sicco subangulatis, internodiis brevibus vel subelongatis; stipulae (bene evolutae non visae) angustae attenuato-acuminatae caducae; folia magna petiolata subcoriacea lucida, petiolo gracili 1.5–2.8 cm. longo; lamina elliptico-oblonga 12–20 cm. longa 5.5–7.5 cm. lata abrupte breviter acuminata, acumine angusto 1.5–2 cm. longo, basi anguste rotundata, supra in sicco brunnescens, costa gracili elevata, nervis venisque quoque elevatis vel prominentibus, subtus fere concolor, costa valde elevata, nervis lateralibus utroque latere circiter 14 angulo lato divergentibus rectis prope marginem irregulariter arcuato-conjunctis, venulis prominulis laxe reticulatis; receptacula axillaria geminata crassissime vix ultra 2 mm. longe pedunculata vel fere sessilia subglobosa sparse minutissime tomentella vel fere omnino glabra circiter 6 mm. diam., ostiolo magno subdepresso, involucro glabro bilobato, lobis apice late rotundatis vix 3 mm. longis patentibus.—Brazil: State of Amazonas, São Paulo de Olivença, basin of Belem Creek, on high land, October–December, 1936, *B. A. Krukoff 9002* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.). State of Amazonas, near mouth of Rio Embira, June, 1933, *Krukoff 4902*.

All the receptacles seen are rather young, and it is probable that at maturity they are somewhat larger than the description indicates.

Ficus Lawrancei Standl., sp. nov.—Arbor 9–12-metralis fere omnino glabra, ramulis crassiusculis teretibus ochraceis, internodiis brevibus; stipulae deciduae ferrugineae lanceolato-triangulares filiformi-attenuatae vix 1 cm. longae extus sparse strigosae vel glabratae intus glabrae; folia mediocria petiolata coriaceo-chartacea, petiolo crassiusculo 1.5–2 cm. longo glabro; lamina elliptica 11–15 cm. longa 5–7.5 cm. lata subabrupte breviter acuminata, acumine angusto acutiusculo, basi obtusa et trinervia, glabra, supra in sicco fuscescens opaca, nervis venisque non elevatis, dense impresso-puncticulata, subtus fere concolor opaca, costa gracili elevata, nervis lateralibus utroque latere 8–9 angulo lato adscendentibus teneris arcuatis pallidis remote a margine irregulariter arcuato-conjunctis, venulis inconspicuis vix prominulis laxe reticulatis; receptacula axillaria geminata sessilia, interdum e nodis defoliatis nascentia, globosa, glabra, 6–8 mm. diam., ostiolo elevato, involucro bilobato 5–6 mm. lato adpresso vel patente, extus dense strigoso vel interdum fere glabro, intus glabro.—Colombia: Lower Chapón region, Department of Boyacá, thick forest fringes near stream side, 900 meters, *A. E. Lawrance 175* (type in Herb. Field Mus.).

Ficus malacocarpa Standl., sp. nov.—Arbor, ramulis crassis brunneis subteretibus dense fulvo-hirsutis, internodiis brevibus; stipulae deciduae ovatae acuminatae 1 cm. longae vel paullo ultra intus glabrae, extus dorso hirsutae, ad margines glabrae; folia inter minora breviter petiolata coriacea vel subcoriacea subfragilia, petiolo 5–12 mm. longo crasso dense hirsuto; lamina oblongo-obovata vel elliptico-oblonga 5.5–10 cm. longa 2.5–5 cm. lata, apice late rotundata vel interdum obtusa, basin versus paullo angustata, basi ipsa obtusa vel anguste rotundata, supra in sicco fuscescens tactu asperrima, praesertim ad nervos venasque hispidula, serius glabrata, nervis venisque prominentibus vel prominulis, subtus fere concolor, ad nervos venasque sat dense hispidula, basi trinervia, costa crassa elevata, nervis lateralibus utroque latere 4–5 angulo semirecto adscendentibus rectis vel subarcuatis versus marginem irregulariter arcuato-conjunctis, venis prominentibus laxe reticulatis; receptacula axillaria geminata 2 mm. longe pedunculata globosa 8–10 mm. diam. dense fulvo-hispidula, ostiolo prominente, involucro minuto vix ultra 2 mm. lato patente bilobato, lobis rotundatis, extus dense adpresso-hispidulo.—British Guiana: River banks, Curita, August, 1924, *A. C. Persaud 100* (type in Herb. Field Mus.). Malali, Demerara River, 1922, *De La Cruz 2699*. Kaietur Falls, Potaro River, *De La Cruz 4459*. Upper Mazaruni River, *De La Cruz 2400*.

Vernacular name Kumaka-balli. An exceptionally well marked species, noteworthy for the abundant, harsh pubescence investing almost all parts of the plant.

Ficus Mexiae Standl., sp. nov.—Arbor 10-metralis, ramulis crassis densissime annulatis ferrugineis glabris; stipulae deciduae anguste triangulares 2 cm. longae attenuato-acutae extus minutissime obscure tomentellae vel fere omnino glabrae, intus glabrae; folia majuscula breviter petiolata coriacea glabra, petiolo crasso 1.3–2 cm. longo; lamina anguste oblanceolato-oblonga 11–20 cm. longa 4–7 cm. lata, apice obtusa vel rotundata et interdum subapiculata, basin versus longe sensim attenuata, basi ipsa anguste rotundata et emarginata vel breviter cordata, supra in sicco fuscescens opaca, nervis venisque prominulis pallidis, subtus paullo pallidior, costa crassa elevata pallida, nervis lateralibus utroque latere circiter 16 angulo lato divergentibus fere rectis pallidis prominentibus versus marginem irregulariter arcuato-conjunctis, venulis inconspicuis vix prominulis laxe reticulatis; receptacula axillaria geminata sessilia globosa glabra maculata, 10–14 mm. diam., ostiolo prominulo, involucro bilobato glabro circiter 8 mm. lato patente vel adpresso, lobis late rotundatis.—Brazil: State of Minas Geraes, Fazenda de Aguada, Viçosa, on stream bank, December 24, 1930, *Ynes Mexia 5447* (type in Herb. Field Mus.).

Local name Matapau. Noteworthy for the large, very long and narrow leaves, broadest toward the apex.

Ficus mima Standl., sp. nov.—Arbor 6-metralis omnino glabra, ramulis crassiusculis ferrugineis, novellis striatis, internodiis brevibus; stipulae angustae caducae longiattenuatae 3 cm. longae brunneae; folia mediocria petiolata chartacea, petiolo gracili 1.5–2.5 cm. longo; lamina anguste elliptico-oblonga 11–15 cm. longa 3.5–5 cm. lata sensim acuminata, acumine acuto, basi acuta, supra in sicco pallide viridis laevis, costa nervisque prominentibus, subtus fere concolor, in sicco paullo brunnescens, costa crassa elevata pallida, nervis lateralibus utroque latere circiter 17, altero teneriore parallelo inter paria interposito, prominentibus angulo lato divergentibus pallidis juxta marginem arcuato-conjunctis, venulis inconspicuis vix prominulis; receptacula axillaria geminata 3 mm. longe pedunculata globosa microscopice puberula 5–6 mm. diam., ostiolo prominulo parvo, involucro parvo vix ultra 2 mm. lato glabro ut videtur obscure bilobato sed fere integro.—Brazil: State of Matto Grosso, on shore of

creek, source of the Jatuarana River, Machado River region, December, 1931, *B. A. Krukoff 1640* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

In general appearance, particularly in form and color of the leaves and in the long, narrow stipules, this plant has every indication of belonging to the subgenus *Pharmacosycea*. However, if one may depend upon the character of geminate receptacles, it is referable actually to the subgenus *Urostigma*, in which it is not approached closely by any other species. The receptacles in the type material probably are not fully mature.

Ficus panurensis Standl., sp. nov.—Ramuli crassi in sicco nigrescentes glabrati, novellis non visis, internodiis brevibus; stipulae non visae; folia mediocria breviter petiolata crasse coriacea, petiolo crasso circiter 1.5 cm. longo tomentello vel glabrato; lamina anguste oblonga vel obovato-oblonga 8–12 cm. longa 3.5–5 cm. lata subacuta ad obtusissima, basin versus paullo angustata, basi ipsa obtusa et plus minusve obliqua, supra in sicco fusca glabra sublucida, costa nervisque insigniter impressis, subtus brunnescens, praesertim ad nervos venasque pilis longiusculis laxis fulvidis pilosa, costa gracili valde elevata, nervis lateralibus utroque latere 7–10 angulo semirecto vel paullo latiore adscendentibus elevatis subarcuatis juxta marginem irregulariter arcuato-junctis, venulis prominentibus laxe reticulatis, margine subrecurvo; receptacula axillaria geminata sessilia globosa 1 cm. diam. dense velutine brunneo-pilosa, ostiolo prominente, involucro adpresso 7 mm. lato bilobato extus dense strigoso vel glabrato intus glabro ferrugineo, lobis rotundatis.—Brazil: Panuré ad Rio Uaupés, 1852–53, *R. Spruce 2768* (type in Herb. Field Mus.).

A species apparently well marked by its leaf form and densely hairy receptacles. It was distributed by Spruce as a new species, under a now untenable name.

Ficus popayanensis Standl., sp. nov.—Ramuli crassi cinnamomei subdense hirtelli, internodiis brevibus; stipulae fuscae anguste triangulares circiter 13 mm. longae longiattenuatae minute puberulae caducae; folia inter minora petiolata coriacea, petiolo crasso 1.5–2.5 cm. longo glabro; lamina oblongo-obovata 5.5–8.5 cm. longa 2.5–4.5 cm. lata, apice rotundata vel obtusissima et interdum obscure late apiculata, basin versus paullo angustata, basi ipsa cuneato-acutiuscula, supra in sicco fusco-brunnescens sublucida, nervis venisque prominulis, utrinque glabra, subtus fere concolor, costa crassa elevata, nervis lateralibus utroque latere 8–11, altero tenuiore parallelo

inter paria interposito, angulo lato divergentibus teneris fere rectis versus marginem arcuato-conjunctis, receptacula axillaria geminata crasse 2–3 mm. longe pedunculata subglobosa, juvenilia 4 mm. tantum diam., glabra vel glabrata, ostiolo plano magno, involucro bilobato 5 mm. lato extus sparse scaberulo vel fere glabro, lobis late rotundatis.—Colombia: Víbora, Central Andes of Popayán, 1,300–1,600 meters, *F. C. Lehmann 5608* (type in Herb. Field Mus.).

At maturity the receptacles are probably somewhat or even much larger than described, for all those seen appear to be very young. The youngest ones are almost enclosed in the comparatively large involucre.

Ficus ramiflora Standl., sp. nov.—Arbor epiphytica subscandens (?), ramis crassissimis ochraceis teretibus glabris, internodiis brevissimis; stipulae ferrugineae caducae glabrae 3 cm. longae vel ultra longiacuminatae; folia magna breviter petiolata coriacea, petiolo crassissimo glabro 1 cm. longo vel paullo ultra; lamina anguste oblanceolato-oblonga in sicco complicata 14–21 cm. longa 3–5.5 cm. lata abrupte anguste acuminata, acumine attenuato, basin versus longe sensim attenuata, basi ipsa obtusa vel acutiuscula, glabra, supra in sicco fusco-brunnescens sublucida, costa venisque non elevatis, subtus paullo pallidior brunnescens, costa crassa elevata, nervis lateralibus utroque latere circiter 15 angulo lato adscendentibus arcuatis non elevatis juxta marginem arcuato-conjunctis, venulis fere obsoletis laxe reticulatis; receptacula omnia ut videtur e nodis ramorum vetustiorum et geminata 4 mm. longe pedunculata globosa 5–7 mm. diam. glabra, ostiolo subprominente, involucro patente ferrugineo vix ultra 3 mm. lato minutissime puberulo vel fere glabro, lobis late rotundatis.—Brazil: State of Amazonas, Humayta, near Tres Casas, on low terra firma, September–October, 1934, *B. A. Krukoff 6446* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

An exceptionally distinct species, unique among representatives of the genus in the Amazon Basin in having the receptacles all borne upon old, leafless branches.

Ficus regularis Standl., sp. nov.—Arbor 25-metralis, ramulis crassis in sicco angulatis brunneis glabris, internodiis brevibus vel saepius elongatis; stipulae caducae triangulares ferrugineae acuminatae 8 mm. longae vel ultra; folia majuscula longipetiolata subcoriacea glabra, petiolo glabro gracili 2.5–4.5 cm. longo; lamina ob-

longo-elliptica vel subobovato-elliptica, supra medium saepe paullo latior, 11–19 cm. longa 5.5–8 cm. lata abrupte breviter acuminata, basi obtusa vel subacuta, supra opaca, costa nervisque prominentibus, subtus fere concolor brunnescens, costa gracili elevata, nervis lateralibus utroque latere circiter 10 angulo latiusculo adscendentibus leviter arcuatis vel fere rectis gracilibus prominentibus prope marginem arcuato-junctis, venulis vix prominulis plerumque transversis crebris et parallelis; receptacula axillaria geminata crasse 5–6 mm. longe pedunculata subglobosa vel pyriformi-globosa 12–14 mm. longa ut videtur viridia glabra, ostiolo magno prominente, involucro bilobato patente vix 4 mm. lato extus sparse strigoso vel fere glabro, pedunculo interdum hispidulo, lobis involucri rotundatis.—Brazil: Territory of Acre, near mouth of Rio Macauhan, a tributary of Rio Yaco, on terra firma, August 14, 1933, *B. A. Krukoff 5488* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.). Amazonas, near mouth of Rio Embira, on varzea land, June, 1933, *Krukoff 5005*.

Ficus sphenophylla Standl., sp. nov.—Arbor 12-metralis omnino glabra, ramulis crassis striatis fusco-brunnescentibus, internodiis brevissimis; stipulae caducae ferrugineae circiter 1 cm. longae attenuatae; folia mediocria petiolata coriacea, petiolo crassiusculo 1.5–2 cm. longo; lamina cuneato-oblonga 8.5–11 cm. longa 3–5 cm. lata, apice late rotundata et breviter apiculato-acuminata vel interdum fere truncata, basin versus longe cuneatim attenuata, basi ipsa obtusa vel subacuta, supra in sicco griseo-brunnescens opaca, nervis venisque non elevatis, subtus brunnescens, costa gracili elevata, nervis lateralibus utroque latere circiter 19, aliis 3 tenerioribus inter paria interpositis, tenerrimis obscuris angulo lato fere recto divergentibus, fere rectis, prope marginem in nervum collectivum subregularem conjunctis, venulis obsoletis; receptacula axillaria et geminata, saepe e nodis inferioribus defoliatis nascentia, interdum pluria quam 2 e nodo, 2–3 mm. longe pedunculata globosa glabra vix ultra 5 mm. diam. maculata, ostiolo magno plano, involucro bilobato glabro adpresso 4 mm. lato, lobis late rotundatis.—Brazil: Territory of Acre, on terra firma near mouth of Rio Macauhan, a tributary of Rio Yaco, August 9, 1933, *B. A. Krukoff 5384* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Well marked by the large, cuneiform leaves with very numerous lateral nerves and obscure venation.

Ficus Sprucei Standl., sp. nov.—Ut videtur omnino glabra, ramulis subgracilibus brunneis, internodiis plus minusve elongatis;

stipulae non visae; folia parva petiolata firme coriacea, petiolo gracili 1–2 cm. longo; lamina obovato-oblonga vel oblanceolato-oblonga 4–9.5 cm. longa 1.8–3.5 cm. lata, apice obtusa ad late rotundata, basin versus sensim angustata, basi ipsa acuta vel subacuta, supra in sicco fuscescens sublucida, nervis venisque non elevatis, subtus fusco-brunnescens, costa gracili elevata, nervis lateralibus utroque latere circiter 12 angulo latiusculo abeuntibus tenerrimis prominulis prope marginem arcuato-conjunctis, venulis prominulis laxe reticulatis; receptacula axillaria geminata crasse 2 mm. longe pedunculata 3–4 mm. diam. globosa glabra, ostiolo plano, involucro bilobato glabro vix 2 mm. lato, lobis rotundatis.—Brazil: Prope Panuré ad Rio Uaupés, 1852–53, *R. Spruce 2804* (type in Herb. Field Mus.), *2499*.

The numbers were distributed by Spruce as a new species, under an untenable name. The receptacles are perhaps the smallest borne by any American species of *Ficus*.

Ficus tolimensis Standl., sp. nov.—Ramuli crassi teretes densissime pilis breviusculis ferrugineis hirsuti, internodiis brevibus; stipulae evolutae non visae, ut videtur parvae latae dense hirsutae; folia majuscula petiolata subcoriacea, petiolo 5–25 mm. longo crasso dense hirtello; lamina late oblongo-obovata vel rotundato-obovata 10.5–15.5 cm. longa 5.5–10.5 cm. lata, apice late rotundata vel obtusissima, basi anguste rotundata et emarginata, supra fuscescens asperrima ubique dense hirtella, nervis venisque prominulis, subtus concolor, dense subvelutine hirtella, costa crassiuscula elevata, nervis lateralibus utroque latere circiter 11 irregularibus angulo lato divergentibus fere rectis prominentibus juxta marginem irregulariter arcuato-junctis, venulis prominentibus reticulatis; receptacula axillaria geminata crasse vix ultra 2 mm. longe pedunculata ovalia, circiter 18 mm. longa et 12 mm. lata, basi et apice rotundata, densissime fulvo-hirtella, ostiolo parvo prominente, involucro parvo bilobo ferrugineo extus dense strigoso, lobis vix 3 mm. longis apice late rotundatis.—Colombia: Dolores, Department of Tolima, 500–1,400 meters, *F. C. Lehmann 5805* (type in Herb. Field Mus.).

An exceptionally well distinguished species, remarkable for the large and very rough leaves, and especially for the large, oval or oblong, densely hairy receptacles.

Ficus uberrima Standl., sp. nov.—Arbor epiphytica fere glabra, ramulis crassiusculis ferrugineis rugosis sparse minute strigillosis vel fere glabris, internodiis superioribus brevissimis; stipulae caducae

angustae longiattenuatae 2.5 cm. longae extus minutissime puberulo-tomentellae; folia mediocria petiolata subcoriacea, petiolo gracili 2–3 cm. longo in statu juvenili sparse obscure puberulo cito glabrato; lamina oblonga interdum apicem versus paullo latior 9–18 cm. longa 4–6.5 cm. lata, apice rotundata vel obtusa et subito caudato-acuminata, acumine fere lineari 1–1.5 cm. longo, basi obtusa vel subacuta, supra in sicco griseo-viridis sublucida glabra, costa crassa elevata, nervis venisque prominulis, subtus brunnescens, glabra vel glabrata, vel in statu juvenili obscure minute puberula, basi triplinervia, costa gracili elevata, nervis lateralibus utroque latere circiter 14, altero paullo tenuiore inter paria nervorum primariorum et eis parallelo interposito, tenerrimis angulo lato abeuntibus subarcuatis vel fere rectis prope marginem arcuato-junctis, venulis obscuris laxe reticulatis; receptacula axillaria geminata arcte sessilia globosa dense minute puberulo-tomentella circiter 8 mm. diam., ostiolo magno valde elevato, involucro subadpresso 6–8 mm. lato bilobato ferrugineo extus minute puberulo, lobis apice late rotundatis.—Brazil: State of Amazonas, near mouth of Rio Embira, a tributary of Rio Tarauaca, June 28, 1933, *B. A. Krukoff 5055* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

The rather handsome leaves are almost exactly oblong in outline, the acumination abrupt, narrow, and markedly elongate. The fruits are densely crowded near the apices of the branches.

Ficus ursina Standl., sp. nov.—Arbor 15-metralis, trunco 50 cm. diam., ramulis crassis brunneis in sicco subangulatis densissime fulvo-hirsutis, internodiis elongatis; stipulae deciduae circiter 1 cm. longae vel ultra longiacuminatae ferrugineae extus adpresso-hirsutae; folia mediocria petiolata fragilia membranacea, petiolo 1–3 cm. longo dense hirsuto; lamina oblanceolato-oblonga 10–17 cm. longa 3.5–6 cm. lata subabrupte anguste acuminata, acumine obtuso, basin versus paullo angustata, basi ipsa anguste rotundata vel truncata et interdum emarginata, supra in sicco fusca asperrima subdense hirtello-scabra, costa nervisque prominulis, subtus fere concolor brunnescens ubique sed praesertim ad costam breviter hirsuta, costa gracili elevata, nervis lateralibus utroque latere circiter 17 prominentibus teneris leviter arcuatis angulo latiusculo adscendentibus prope marginem arcuato-conjunctis, venulis prominentibus sed inconspicuis laxe reticulatis; receptacula axillaria geminata arcte sessilia depresso-globosa 12–14 mm. lata densissime molliter fulvo-pilosa, ostiolo majusculo glabro subdepresso, involucro bilobato

7 mm. lato ferrugineo adpresso extus piloso, lobis apice late rotundatis.—Brazil: Territory of Acre, on terra firma, near mouth of Rio Macauhan, a tributary of Rio Yaco, August 29, 1933, *B. A. Krukoff 5686* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Related to *F. juruensis* Warb., of the same general region, which differs decidedly in leaf form, especially in the much fewer lateral nerves, and also in its somewhat smaller, not depressed fruits.

Olmedia boyacana Standl., sp. nov.—Arbor 12–18-metralis, trunco 10–15 cm. diam., ramulis gracilibus in sicco fuscis dense adpresse sordido-pilosulis, internodiis brevibus; stipulae lineari-triangulares 6–7 mm. longae ferrugineae caducae extus adpresse ferrugineo-pilosae; folia inter minora breviter petiolata subcoriacea, petiolo crassiusculo 6–7 mm. longo dense fulvo-strigoso; lamina anguste lanceolato-oblonga 6.5–13 cm. longa 2–3.5 cm. lata subabrupte longiattenuata, acumine angusto plus minusve falcato apice acuto, basi oblique acuta, supra in sicco fuscescens, tantum ad costam subimpressam pilosula aliter glabra opaca, subtus fere concolor primo dense fulvo-strigosa cito glabrata, costa gracili elevata, nervis lateralibus utroque latere circiter 13 angulo lato adscendentibus arcuatis gracilibus prominentibus marginem attingentibus, venulis prominulis laxe reticulatis; capitula mascula axillaria geminata 5–7 mm. longe pedunculata globosa dense multiflora circiter 8 mm. diam., pedunculo dense hirtello ut videtur plus minusve recurvo, bracteis numerosis ovatis obtusis dense strigillosis, floribus dense puberulis, antheris longe exsertis.—Colombia: Region of El Humbo, State of Boyacá, on high, forested slopes, 1,350 meters, May 10, 1933, *A. E. Lawrance 791* (type in Herb. Field Mus.).

Similar to *O. tovarensis* Klotzsch, in which the leaves have much shorter acuminations and a more abundant, soft, more or less spreading pubescence on the lower surface.

Perebea concinna Standl., sp. nov.—Arbor 6–21-metralis, ramulis crassiusculis ochraceis vel griseis, novellis ferrugineis dense breviter molliter pilosis, serius glabratis, internodiis subelongatis; stipulae caducae 10–14 mm. longae acuminatae extus dense sericeae ferrugineae; folia magna breviter petiolata coriacea, petiolo crasso 6–15 mm. longo dense ferrugineo-pilosulo vel glabrato; lamina oblonga, oblanceolato-oblonga vel anguste oblonga 11–20 cm. longa 3.5–6.5 cm. lata subito breviter acuminata, acumine lato apice obtuso vel rotundato, basin versus interdum paullo angustata, basi ipsa acuta vel obtusa et saepius paullo inaequali, supra in sicco plus

minusve brunnescens vel lutescens laevis glabra sublucida, costa elevata, nervis venisque obscuris non elevatis, subtus fere concolor sublucida glabra, costa bene elevata, nervis lateralibus utroque latere 16–19 angulo lato fere recto divergentibus teneris inconspicuis prominulis fere rectis prope marginem irregulariter arcuato-conjunctis, venulis vix prominulis arcte reticulatis; capitula feminea axillaria geminata vel ut videtur interdum fasciculata brevissime pedunculata, bracteis parvis latissimis obtusis vel subtruncatis adpresso-pilosulis; pedunculus fructifer crassissimus brevis, capitulo fructifero globoso 2.5–3.5 cm. diam., fructibus numerosis dense aggregatis densissime adpresse brunneo-tomentosis irregulariter angulatis.—Brazil: State of Amazonas, Humayta, near Livramento, on Rio Livramento, on terra firma, October–November, 1934, *B. A. Krukoff 6687* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.), *6620*. Amazonas, São Paulo de Olivença, basin of Belem Creek, in 1936, *Krukoff 8955*. State of Matto Grosso, near Tabajaza, upper Machado River region, in 1931, *Krukoff 1492*.

It is not altogether certain that all the collections cited are conspecific, since part of them are not in good condition for study.

Perebea xinguana Standl., sp. nov.—Arbor 16-metralis, trunco 45 cm. diam., ramulis crassis ferrugineis, novellis dense griseo-puberulis, internodiis brevibus; stipulae angustae circiter 1.5 cm. longae anguste attenuatae deciduae extus dense griseo-sericeae; folia magna breviter petiolata firme coriacea, petiolo crasso circiter 2 cm. longo primo dense griseo-puberulo, serius glabrato; lamina oblongo-elliptica 24 cm. longa 12 cm. lata, apice subito caudato-acuminata, acumine angusto attenuato apice obtuso, basi obtusa, supra in sicco griseo-viridis lucida glabra, nervis prominentibus, venulis prominulis, subtus fere concolor in statu juvenili densiuscule fulvo-puberula cito glabrata, in statu adulto fere omnino glabra, costa gracili valde elevata, nervis lateralibus utroque latere circiter 20 prominentibus pallidis angulo lato divergentibus rectis juxta marginem arcuato-conjunctis venulis transversis subparallelis irregularibus connexis, venulis ultimis vix prominulis arctissime reticulatis; receptacula mascula (tantum in statu juvenili visa) axillaria geminata disciformia 8 mm. (vel ultra?) lata dense multiflora, pedunculis inaequalibus ad 1 cm. longis minute puberulis, bracteis numerosis arcte imbricatis late ovatis acutis vel obtusis minute adpresso-pilosulis.—Brazil: State of Pará, in high forest, upper Cupary River, plateau

between the Xingu and Tapajos rivers, September, 1931, *B. A. Krukoff 1133* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

Vernacular name Muiratinga.

Pourouma elliptica Standl., sp. nov.—Arbor 15-metralis, trunco 11 cm. diam., ramulis crassis densissime fulvo-hirsutis, internodiis brevibus, cicatricibus stipularum paullo obliquis; stipulae caducae angustae 2.5 cm. longae acuminatae extus dense fulvo-hirsutae; folia magna longipetiolata coriacea, petiolo gracili 7–9.5 cm. longo dense breviter hirsuto; lamina elliptica vel oblongo-elliptica 17–30 cm. longa 8.5–16 cm. lata apice anguste rotundata et brevissime apiculata, basi obtusa vel anguste rotundata, supra in sicco brunnescens laevis, primo ad nervos costamque hispidula, serius glabrata, nervis venisque non elevatis, subtus lutescenti-grisea ubique dense adpresse arachnoideo-tomentosa, ad venas nervosque hirtella, costa gracili elevata, nervis lateralibus utroque latere circiter 13 prominentibus angulo semirecto adscendentibus rectis in marginem desinentibus, venis transversis creberrimis parallelis prominentibus; inflorescentia mascula laxe paniculata multiramosa petiolo longior longipedunculata, ramis dense purpureo-ferrugineis puberulo-tomentellis, bracteis brevibus linearibus fulvo-hispidulis.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, on high land, September–October, 1936, *B. A. Krukoff 8388* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

Vernacular name Mapaty. Well marked by its large, elliptic, entire leaves, rounded or sometimes almost truncate at the apex.

Pourouma ferruginea Standl., sp. nov.—Arbor 13-metralis, trunco 10 cm. diam., ramulis crassissimis densissime ferrugineo-tomentosis; stipulae non visae; folia magna longissime petiolata coriacea, petiolo crasso circiter 18 cm. longo primo ut videtur dense arachnoideo-tomentoso, glabrescente; lamina rotundato-ovata vel late oblongo-ovata 26–35 cm. longa 17–23 cm. lata apice late rotundata et interdum breviter cuspidato-apiculata, basi late rotundata vel saepius breviter (ad 2 cm.) aperte cordata, interdum infra medium obscure trilobata, margine integro vel subundulato, supra in sicco pallide brunnescens laevis glabra vel tantum ad costam nervosque adpresso-hispidula, nervis subimpressis, subtus ubique dense ferrugineo-arachnoideo-tomentosa, basi 5-nervia, costa gracili elevata, nervis lateralibus utroque latere circiter 18 prominentibus rectis

angulo recto vel paullo latiore adscendentibus in marginem desinentibus venis transversis prominulis crebris fere rectis connexis; panicula mascula petiolo plus quam duplo brevior laxe multiramosa pedunculata, ramis dense purpureo-ferrugineo-tomentellis, bracteis linearibus fulvo-hispidulis.—Brazil: State of Amazonas, São Paulo de Olivença, basin of Belem Creek, in high forest, terra firma, October–December, 1936, *B. A. Krukoff 8807* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

Noteworthy for the bright reddish-ferruginous tomentum of the lower leaf surface, a character not common in the genus. Regarding this tree Mr. Krukoff writes: "Perhaps one of the most interesting plants recently identified by you is No. 8807, *Pourouma ferruginea*. It is apparently quite rare, and although its leaves (reddish underneath) can be seen at a distance, a thorough search of the immediate vicinity failed to produce another individual. The tree provided material for only three sets. I have not seen this tree in any other region except the type locality."

Pourouma isophlebia Standl., sp. nov.—Arbor 18-metralis, trunco 17 cm. diam., ramulis fuscis teretibus striatis, novellis dense pallido-sericeis, internodiis brevissimis, cicatricibus stipularum parum obliquis; stipulae caducae 3.5–4 cm. longae angustae acuminatae densissime lucide fulvo-sericeae; folia parva petiolata coriacea, petiolo gracili 2–3 cm. longo striato supra late canaliculato sericeo; lamina oblongo-obovata vel elliptico-obovata 9–12 cm. longa 4.5–6 cm. lata, apice late rotundata, rare brevissime emarginata, basin versus paullo angustata, basi ipsa obtusa vel acutiuscula, supra in sicco fusco-brunnescens glabra vel tantum ad costam adpresso-pilosa opaca, nervis non elevatis, subtus pallida tomento minuto adpresso cinereo dense induta, ad nervos costamque dense sericea, basi trinervia, costa gracili elevata, nervis lateralibus utroque latere circiter 7 angulo angusto minore quam recto adscendentibus prominentibus gracilibus marginem fere attingentibus venulis transversis crebris fere rectis prominulis connexis, margine integro vel apicem versus subundulato; inflorescentiae femineae axillares 1.5–2 cm. longe pedunculatae simplices et capitatae vel e capitulis 3 pedunculatis paucifloris compositae, pedunculis densissime fulvo-sericeis, perianthio densissime sericeo stigmate magno terminato.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, terra firma, on high land, September–October, 1936 *B. A. Krukoff 8073* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.).

Easy of recognition because of the peculiar inflorescence and the small leaves of distinctive form and nervation.

Pourouma Lawrancei Standl., sp. nov.—Arbor 12–15-metralis, trunco 20–30 cm. diam., ramulis crassis in sicco angulatis, novellis minute puberulis, internodiis brevibus, cicatricibus stipularum parum obliquis; stipulae caducae magnae latiusculae 7 cm. longae acutae minutissime puberulo-tomentellae; folia magna longipetiolata coriacea, petiolo gracili 8–10 cm. longo minute puberulo striato; lamina ovata vel late ovata 17–24 cm. longa 10.5–16 cm. lata apice obtusa vel subacuta et brevissime apiculata, basi late rotundata vel subtruncata et emarginata, supra in sicco brunnescens laevis glabra vel tantum ad costam sparse adpresso-hirsuta, nervis non elevatis, subtus pallida ubique densiuscule adpresse albido-arachnoideo-tomentosa, basi 5-nervia, costa gracili elevata, nervis lateralibus utroque latere circiter 14 angulo semirecto adscendentibus rectis in marginem desinentibus venulis crebris transversis prominulis fere rectis connexis, margine integro vel subundulato; inflorescentia mascula laxe corymboso-paniculata petiolo fere aequilonga repetite ramosa longipedunculata, ramis densissime ferrugineo-tomentellis, bracteis parvis linearibus vel filiformibus ferrugineo-tomentellis.—Colombia: Region of El Humbo, State of Boyacá, along stream, 900 meters, March 31, 1933, *A. E. Lawrance 727* (type in Herb. Field Mus.).

Vernacular name Cormi. "Flowers white with brown stamens; wood used in hut construction; a black staining substance is contained in the inner bark of stem and in the leaves."

Pourouma Mildbraediana Standl., sp. nov.—Arbor 21-metralis, trunco 22 cm. diam., ramulis crassis subteretibus longitrorsum corrugatis densissime breviter pilosulis et sparse hirsutis ferrugineis, internodiis brevissimis, cicatricibus stipularum non obliquis; stipulae magnae coriaceae ferrugineae latiusculae 5.5–6.5 cm. longae rugosae glabrae vel fere glabrae caducae; folia majuscula longipetiolata coriacea, petiolo circiter 4.5 cm. longo dense ochraceo-sericeo; lamina ovata vel late ovata 14–18 cm. longa 9–12 cm. lata obtusa, basi late rotundata vel subcordata, supra in sicco brunnescens asperrima ubique scaberula, nervis non elevatis, subtus pallidior griseo-brunnescens ubique minute adpresse albido-tomentosa, ad costam nervosque sericea, ad venulas interdum hirtella, basi 5–7-nervia, costa valde elevata, nervis lateralibus utroque latere circiter 13 angulo semirecto adscendentibus rectis in marginem desinentibus venulis transversis crebris valde arcuatis prominentibus connexis,

margine subundulato; inflorescentia mascula densiuscule cymoso-paniculata petiolo plus minusve longior longipedunculata repetite ramosa multiflora, pedunculo crassiusculo atque ramis primariis dense ochraceo-sericeis, ramis ultimis dense ferrugineo-tomentellis, floribus aggregatis, bracteis linearibus ferrugineo-tomentellis.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, terra firma, on high land, September–October, 1936, *B. A. Krukoff 8386* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

Pourouma populifolia Standl., sp. nov.—Arbor 13-metralis, trunco 12 cm. diam., ramulis crassis in sicco subangulatis ferrugineis sparse fulvo-hirsutis, internodiis superioribus brevissimis, cicatricibus stipularum paullo obliquis; stipulae angustae caducae 8.5 cm. longae acutae ferrugineae extus arachnoideo-tomentosae et hirsutae intus glabrae; folia inter minora longipetiolata coriacea, petiolo gracili 4–8 cm. longo puberulo et sparse hirsuto vel glabrato; lamina ovata vel late ovata 7.5–12.5 cm. longa 6–8.5 cm. lata anguste acuminata, basi rotundata vel obtusa, supra in sicco fusco-brunnescens glabra vel tantum ad costam adpresso-hirsuta, opaca, nervis non elevatis, subtus pallidior brunnescens ubique tomento minuto arcte adpresso densiuscule induta, ad nervos sparse strigosa, basi trinervia, costa gracili elevata, nervis lateralibus utroque latere circiter 11 angulo semirecto adscendentibus rectis marginem attingentibus venulis transversis prominulis crebris fere rectis connexis, margine integro vel paullo undulato; inflorescentia feminea petiolo aequilonga vel longior longipedunculata laxe multiflora, pedunculo puberulo vel fere glabro apice trichotomo, ramis densissime molliter fulvo-pilosulis, capitulis umbellatis paucifloris, pedicellis crassis circiter 5 mm. longis; fructus ovoideus 10–14 mm. longus basi rotundatus apice contractus dense puberulo-tomentellus apice stigmate coronatus.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, on varzea land, September–October, 1936, *B. A. Krukoff 8427* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.).

Vernacular name Mapaty. Similar to *P. longipendula* Ducke, also of the Amazon Valley, which has peduncles more than twice as long, and lacks the hirsute pubescence of *P. populifolia.*

Pourouma subplicata Standl., sp. nov.—Arbor 27-metralis, ramulis crassiusculis in sicco subangulatis, cicatricibus stipularum parum obliquis, internodiis superioribus brevissimis, novellis dense fulvo-sericeis; stipulae caducae angustae 5.5 cm. longae extus densissime lucide fulvo-sericeae, acutae, intus glabrae ferrugineae; folia

inter minora petiolata firme coriacea, petiolo 1.5–3.5 cm. longo gracili striato dense sericeo; lamina ovali-oblonga vel obovato-oblonga vulgo supra medium paullo latior 10.5–16.5 cm. longa 4.5–8 cm. lata, apice obtusa vel rotundata, basin versus paullo angustata, basi ipsa obtusa, supra in sicco brunnescens lucida glabra vel ad costam sericea, nervis subimpressis, subplicata, subtus multo pallidior, ubique dense pilis brevibus subadpressis fulvis pilosula sed vix tomentosa, ad costam nervosque sericea, basi trinervia, costa crassiuscula elevata, nervis lateralibus utroque latere circiter 13 angulo semirecto vel paullo angustiore adscendentibus rectis marginem attingentibus elevatis gracilibus venulis transversis creberrimis fere rectis prominulis connexis, margine apicem versus undulato; inflorescentiae femineae capituliformes axillares 4–5 cm. longe pedunculatae, pedunculo simplici fulvo-sericeo, capitulis paucifloris, floribus sessilibus, perianthio angusto circiter 1 cm. longo densissime pilis brevibus mollibus subadpressis vel patentibus lutescentibus lucidis induto, stigmate magno convoluto ferrugineo terminato.—Brazil: Territory of Acre, near mouth of Rio Macauhan, a tributary of Rio Yaco, on terra firma, August 4, 1933, *B. A. Krukoff 5282* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Pourouma umbellata Standl., sp. nov.—Arbor 16–21-metralis, ramulis subgracilibus teretibus vel in sicco plus minusve angulatis, vetustioribus brunneis, novellis dense arctissime ochraceo-sericeis, internodiis superioribus brevibus, cicatricibus stipularum parum obliquis; stipulae caducae angustae 5–9 cm. longae acuminatae ferrugineae extus densissime lucide fulvo-sericeae intus glabrae; folia inter minora petiolata coriacea, petiolo gracili 2–3.5 cm. longo fulvo-sericeo; lamina oblongo-elliptica vel obovato-oblonga, medio vel paullo supra medium latissima, 9.5–17 cm. longa 4–7.5 cm. lata subabrupte anguste acuminata, acumine apice obtuso, basi obtusa vel subacuta, supra in sicco brunnescens sublucida glabra vel tantum ad costam adpresso-hirsuta, nervis non elevatis, subtus pallida ubique minute adpresse tomentulosa, ad costam nervosque sericea, basi trinervia, costa gracili elevata, nervis lateralibus utroque latere circiter 12 angulo semirecto vel paullo angustiore adscendentibus rectis marginem attingentibus venulis transversis crebris paullo arcuatis prominulis connexis, margine integro vel apicem versus paullo undulato; inflorescentia feminea axillaris crasse 4–4.5 cm. longe pedunculata, floribus 3–5-umbellatis 1–1.5 cm. longe pedicellatis, perianthio ovoideo 1.5–2 cm. longo dense minute sericeo, basi obtuso, apicem versus acuminato-angustato.—Brazil: State

of Amazonas, Humayta, on plateau between Rio Livramento and Rio Ipixuna, on terra firma, November, 1934, *B. A. Krukoff 7071* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.). Amazonas, Manicore, near Santa Fe, September, 1934, *Krukoff 6041*.

In form of the inflorescence this is much like *P. isophlebia*, described above, but in that the leaves are rounded rather than acuminate at the apex.

Pseudolmedia Krukovii Standl., sp. nov.—Arbor 9–20-metralis, trunco 10–17 cm. diam., ramulis crassiusculis, vetustioribus griseis, novellis ferrugineis minute puberulis vel fere omnino glabris, internodiis brevibus; stipulae triangulares vix ultra 5 mm. longae acuminatae deciduae sparse minute strigillosae vel glabratae; folia mediocria breviter petiolata coriacea, petiolo crassiusculo 4–6 mm. longo ferrugineo glabrato; lamina anguste oblanceolato-oblonga 8.5–14 cm. longa 2.5–4 cm. lata subabrupte caudato-acuminata, acumine angusto obtuso usque 1.5 cm. longo, basin versus paullo angustata, basi ipsa acuta vel obtusa et plus minusve inaequali, glabra, supra in sicco subgrisea opaca, nervis prominulis, subtus pallidior brunnescens, costa gracili elevata, nervis lateralibus utroque latere circiter 12 angulo fere recto divergentibus valde arcuatis, remote a margine irregulariter arcuato-conjunctis, venulis prominulis laxe reticulatis; capitula mascula parva plerumque e nodis defoliatis nascentia breviter pedunculata vel fere sessilia recurva subglobosa 5–6 mm. longa, bracteis rotundato-ovatis obtusis vel apice rotundatis puberulis late imbricatis, exterioribus gradatim brevioribus, antheris ultra bracteas bene exsertis.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, terra firma, on high land, September–October, 1936, *B. A. Krukoff 8159* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.), *8341*.

Pseudolmedia Murure Standl., sp. nov.—Arbor 11-metralis, trunco 15 cm. diam., ramulis gracilibus griseis teretibus, novellis ferrugineis glabris vel sparsissime minute strigillosis, internodiis brevibus; stipulae angustae caducae brunneae circiter 1 cm. longae dense lucide fulvo-sericeae; folia mediocria breviter petiolata coriacea, petiolo 6–10 mm. longo crassiusculo glabro vel glabrato; lamina elliptico-oblonga circiter 14 cm. longa atque 6 cm. lata abrupte breviter acuminata, acumine obtuso, basi obtusa vel anguste rotundata et paullo obliqua, glabra, supra in sicco brunnescens sublucida, venulis minute reticulatis vix prominulis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere circiter 13 angulo

lato divergentibus paullo arcuatis gracilibus prominentibus prope marginem eleganter arcuato-conjunctis venulis transversis remotis subparallelis vix prominulis connexis; capitula feminea 1-flora axillaria ut videtur solitaria sessilia vix ultra 4 mm. longa, bracteis numerosis ferrugineis rotundato-ovatis obtusis, exterioribus gradatim brevioribus, extus sparse minute sericeis, stylo bracteis plus quam duplo longiore.—State of Maranhão, road to Gurupy, Carutapera, on terra firma, January 30, 1933, *R. Froes 2023* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

Vernacular name Murure. "Bark used to cure rheumatism, and for nerves."

NYCTAGINACEAE

Neea aeruginosa Standl., sp. nov.—Arbor 12-metralis, trunco 10 cm. diam., ramulis subteretibus crassiusculis dense breviter fusco-villosulis, internodiis 3.5–8 cm. longis; folia opposita magna breviter petiolata subcoriacea, petiolo crasso 8–15 mm. longo dense breviter ferrugineo-villosulo; lamina oblongo-elliptica 12–21 cm. longa 6–9.5 cm. lata, apice subrotundata vel obtusa et subito in acumen acutum usque 1.5 cm. longum contracta, basi obtusa vel anguste rotundata, supra in sicco fusca sublucida glabra, costa nervisque conspicuis sed vix elevatis, venis manifestis, subtus fusca tactu asperula, ubique breviter ferrugineo-puberula, ad costam breviter villosula, costa crassiuscula elevata, nervis lateralibus utroque latere circiter 8 remotis irregularibus angulo lato adscendentibus valde arcuatis versus marginem irregulariter arcuato-conjunctis, venis vix prominulis laxe reticulatis; inflorescentia feminea terminalis dense multiflora cymoso-paniculata 1.5–2 cm. longe pedunculata circiter 2 cm. longa et aequilata pauciramosa, basi trichotoma, ramis crassis densissime ferrugineo-villosis, bracteis ovato-oblongis vix ultra 3 mm. longis obtusis dense villosulis, floribus congestis sessilibus; perianthium late tubulosum fere 5 mm. longum glabratum vel tantum prope basin ferrugineo-puberulum, lobis subpatentibus latis obtusis circiter 1 mm. longis; stylus breviter exsertus.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, varzea land, September–October, 1936, *B. A. Krukoff 8578* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

Neea Mexiae Standl., sp. nov.—Frutex patens 2.5 m. altus, ramis gracilibus pilis sordidis rigidis dense longihirsutis, internodiis elongatis 4–10 cm. longis; folia inter maxima opposita vel ternata breviter petiolata membranacea, petiolo crasso 1.5 cm. longo hirsuto;

lamina oblongo-elliptica 21–29 cm. longa 9–11.5 cm. lata acuminata, acumine ipso acuminato, basi acuta vel subabrupte acuminata, supra in sicco fusca, primo sparse pilis longis patentibus hirsuta, cito glabrata, subtus praesertim ad costam longe hirsuta, aliter sparse hirsuta vel glabrata, costa crassiuscula elevata, nervis lateralibus utroque latere circiter 13 tenuibus angulo lato adscendentibus arcuatis; inflorescentia feminea ut videtur dependens longissime (ad 20 cm. longe) pedunculata, cymoso-paniculata thyrsoideo-pyramidalis 8 cm. longa et fere aequilata, pedunculo dense longihirsuto, ramis paniculae reflexis dense hirsutis, floribus breviter crasse pedicellatis, bracteis filiformibus hirtellis usque 5 mm. longis persistentibus numerosis; perianthium roseo-brunneum 8–10 mm. longum 3–4 mm. latum glabrum vel obscure sparse puberulum, ore contractum, dentibus triangularibus acutis vix ultra 0.5 mm. longis.—Ecuador: Near Tena, 400 meters, in dense forest, April, 1935, *Ynes Mexia 7151* (type in Herb. Field Mus.; duplicate in U. S. Nat. Herb.).

Remarkable for the very large leaves, and the exceptionally copious, hirsute pubescence densely investing the branches and peduncles.

Neea Krukovii Standl., sp. nov.—Arbor 20-metralis, ramulis crassis subteretibus fuscis glabris vel ad nodos sparse puberulis; folia 3–5-verticillata vel hinc inde alterna petiolata magna chartacea valde inaequalia, petiolo gracili 1.5–2.5 cm. longo glabro; lamina oblonga vel anguste oblonga 9–18 cm. longa 3.5–5.5 cm. lata obtuse acutata, basi acuta et obliqua, glabra, supra in sicco lucida fusco-olivacea, costa nervisque prominulis, nervulisque quoque prominulis atque laxe reticulatis, subtus opaca fusca, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 15 angulo lato divergentibus fere rectis versus marginem reticulato-conjunctis, nervulis prominulis laxe reticulatis; inflorescentia terminalis paniculata 3.5 cm. longe pedunculata ca. 7 cm. longa et 8 cm. lata, ramis crassis subpatentibus dense minute sordido-puberulis, floribus dense aggregatis arcte sessilibus; fructus immaturus 7 mm. longus clavato-oblongus glaber. —Brazil: State of Amazonas, basin of Rio Madeira, Humayta, near Livramento, on terra firma, October–November, 1934, *B. A. Krukoff 6836* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

A species noteworthy for the large and exceptionally narrow leaves, very lustrous on the upper surface, and almost coriaceous in texture.

Neea madeirana Standl., sp. nov.—Arbor 21–28-metralis, ramulis crassis subteretibus vel plus minusve obtuse angulatis, densissime rufo-tomentulosis, internodiis brevibus; folia magna ad apices ramulorum subverticillata petiolata valde inaequalia papyracea, petiolis crassiusculis 1.5–2.5 cm. longis dense rufo-tomentosis; lamina obovata, obovato-elliptica vel late elliptica 7–34 cm. longa 4.5–12.5 cm. lata, apice rotundata vel obtusa vel breviter acutata, basi acuta ad subrotundata, interdum abrupte decurrens, supra in sicco lucida, primo dense rufo-tomentosa serius glabrata, nervulis prominulis arcte reticulatis, subtus opaca densius rufo-tomentosa, tomento plus minusve persistente, costa crassa elevata, nervis lateralibus utroque latere ca. 12 adscendentibus crassiusculis prominentibus subarcuatis in marginem desinentibus, nervulis prominentibus reticulatis; inflorescentia (immatura et altera fructifera tantum visae) parva petiolo paullo longior pedunculata densissime multiflora, floribus sessilibus vel subsessilibus, undique densissime rufo-tomentosa; panicula fructifera ca. 6 cm. lata; fructus maximus ovalis 18 mm. longus 12 mm. latus basi et apice late rotundatus dense rufescenti-tomentulosus.—Brazil: State of Amazonas, basin of Rio Madeira, Humayta, on plateau between Rio Livramento and Rio Ipixuna, on campinarana, November, 1934, *B. A. Krukoff 7066* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.). Also *No. 6902*, collected near Livramento.

Vernacular name, João Mole. An exceptionally well marked species, noteworthy for the large, broad leaves and the copious, rusty tomentum found on all parts of the plant.

Reichenbachia colombiana Standl., sp. nov.—Frutex 2–3-metralis vel ultra, ramis vetustioribus teretibus striatis ochraceis, novellis gracilibus dense minute stellato-tomentulosis, internodiis brevibus; folium unum sine dubio valde depauperatum tantum visum, fere sessile late ellipticum 8 mm. longum 5 mm. latum subobtusum basi obtusum, supra dense minute stellato-puberulum, subtus pallidius dense stellatim ochraceo-tomentosum; flores cymosi vel ad nodos fasciculato-subumbellati, inflorescentiam elongatam angustam efformantes, pedicellis fructiferis gracilibus 4–7 mm. longis patenti-pilosis; perianthium anguste tubulosum ca. 8 mm. longum 1–1.5 mm. latum basi acutiusculum obscure costulatum, dense stellato-pilosulum et pilis longioribus patentibus pilosum, dentibus anguste oblongis 4–5 subpatentibus ca. 2 mm. longis obtusis; stamina tubo paullo breviora, filamentis gracilibus glabris, antheris 1 mm. longis; stylus inferne dense stellato-pilosus; fructus ovoideus fere

2 mm. longus prope basin glaber vel glabratus, apicem versus paullo angustatus et dense stellato-pilosus.—Colombia: Arroyo de Piedras and Luruaco, in a clearing along a trail, April 5, 1936, *Armando Dugand G. 979* (type in Herb. Field Mus.).

This species represents a most remarkable and unexpected addition to the flora of Colombia. In the most recent treatment of the Nyctaginaceae by Heimerl in the *Pflanzenfamilien*, a single species is recognized in the genus *Reichenbachia*, *R. hirsuta* Spreng. of Matto Grosso, Paraguay, and Argentina. That has a minute, closely appressed, silvery, stellate pubescence suggestive of the indument that characterizes many members of the Elaeagnaceae. The present plant has a quite different pubescence, of relatively lax and long hairs, easily visible to the naked eye. In other respects the plants are similar, so far as can be observed, and evidently congeneric. The available material of *R. colombiana* bears, unfortunately, only a single and doubtless abnormal and greatly reduced leaf. It is likely that well developed leaves of the northern plant will reveal other differential characters.

CARYOPHYLLACEAE

Silene chihuahuensis Standl., sp. nov.—Herba elata erecta vel basi decumbens ca. 60 cm. alta, caule viridi tereti glabro tantum ad vel prope nodos sparse villoso, internodiis plerumque foliis longioribus; folia opposita membranacea, superiora sessilia, inferiora in petiolum 5 mm. longum alatum contracta, ovata vel late elliptico-ovata 6–8.5 cm. longa 3–5 cm. lata acuminata vel longiacuminata, basi abrupte in petiolum contracta et late obtusa vel rotundata, superiora basi subcordata, in sicco laete viridia, supra praesertim prope basin sparse breviter pilosa, ciliata, subtus ad costam pilosa, minute pallido-puncticulata, nervis lateralibus plerumque prope basin nascentibus; inflorescentia laxe anguste thyrsoideo-paniculata 20 cm. longa 8 cm. lata, ramis primariis plerumque trifloris suberectis pilis brevibus albidis plus minusve viscidis subdense villosis, bracteis foliis similibus sed minoribus, pedicellis terminalibus gracilibus usque 3 cm. longis, floribus subnutantibus; calyx subinflatus campanulatus 1.5 cm. longus fere 1 cm. latus subdense albido-villosus albidus viridi-nervosus, basi rotundatus, lobis late ovatis tubo plus quam duplo brevioribus obtusis vel acutiusculis trinerviis, marginibus hyalinis; petala ut videtur alba 2.5 cm. longa longe unguiculata, lamina lata basi late cuneata in lacinias fere 1 cm. longas angustissimas apice fere filiformes partita.—Mexico: Chuichupa, Chihua-

hua, moist, shaded canyon, August–September, 1936, *Harde LeSueur 637* (type in Herb. Field Mus.).

A handsome plant with large flowers and broad leaves, not closely similar to any other Mexican species of the genus.

CRUCIFERAE

Selenia mexicana Standl., sp. nov.—Herba subacaulis annua vel biennis, caulibus valde abbreviatis vix ultra 1 cm. longis, planta ubique glabra; folia numerosa pallide viridia ut videtur rosulata usque 7 cm. longa bipinnatim dissecta, segmentis parvis linearioblongis acutiusculis, rhachi primaria angustissime marginata, petiolis basin versus plus minusve dilatatis vaginantibus; pedunculi axillares graciles ad 2 cm. longis saepe flexuosis vel recurvis; siliqua subsessilis oblongo-ovalis 17–23 mm. longa 8–9 mm. lata, apice late rotundata, basi obtusa, anguste marginata, stylo persistente basi valde incrassato vix ultra 2 mm. longo, valvis enerviis; semina disciformia orbicularia hilo emarginata lucida dense punctata fuscescentia 5–6 mm. diam., marginata sed vix alata.—Mexico: Rare on the plain, Arroyo Hondo, Hacienda San José de Raíces, Municipio de Galeana, State of Nuevo León, August 1, 1935, *C. H. Mueller 2327* (type in herb. Arnold Arb.; fragment in Herb. Field Mus.).

This is the fourth species of *Selenia* to be described, the others ranging from southern Missouri to Arkansas, Oklahoma, Texas, and eastern New Mexico. The Mexican plant is most closely related to *S. dissecta* Torr. & Gray, in which the seeds are broadly and conspicuously winged, and the style much more elongate and slender.

CAPPARIDACEAE

Capparis Millei Standl., sp. nov.—Arbor pulchra 6–8-metralis, ramulis novellis olivaceis in sicco subangulatis densissime minute molliter puberulis, internodiis brevibus vel paullo elongatis; folia majuscula longipetiolata subcoriacea, petiolo gracili 1–4.5 cm. longo dense minute puberulo; lamina oblonga vel elliptico-oblonga 7–12 cm. longa 2.5–7.5 cm. lata apice late rotundata et brevissime apiculata vel interdum emarginata, basi anguste rotundata vel obtusa, supra in sicco laete viridis glabra, nervis manifestis sed non elevatis, subtus glaucescens ubique dense pilis albidis brevibus subpatentibus pilosula, costa gracili prominente, nervis lateralibus utroque latere ca. 8 angulo latiusculo adscendentibus subarcuatis remote a margine arcuato-junctis, venulis manifestis arcte reticulatis; inflorescentia terminalis corymbiformi-racemosa longipedunculata, floribus num-

erosis, pedicellis gracilibus suberectis ca. 3 cm. longis puberulis; calyx (perfectus non visus) patens glandulis 4 magnis auctus; corolla in alabastro globoso-ovoidea apice rotundata, petalis latis fere 1 cm. longis dense minute puberulis; stamina numerosa torta violacea longissima; gynophorum in statu fructifero ca. 6.5 cm. longum puberulum; bacca immatura subglobosa ca. 13 mm. longa basi et apice rotundata sparse puberula vel fere glabra.—Ecuador: In sylvis regionis tropicae prope Guayaquil, September–October, 1936, *Luis Mille 898* (type in Herb. Field Mus.).

HAMAMELIDACEAE

Hamamelis mexicana Standl., sp. nov.—Frutex usque 3.5 m. altus, ramulis vetustioribus teretibus brunnescenti-ochraceis glabratis obscure rimosis lenticellis paucis elevatis conspersis, annotinis brevibus crassis 1.5–2.5 cm. longis conspicue nodosis dense adpresse tomento ochraceo indutis, nodis 4–7, novellis similiter tomento brunnescente indutis; folia ad anthesin persistentia crasse membranacea, petiolis solemniter inaequalibus, foliorum inferiorum 8–10 mm. tantum longis, foliorum apicalium 2–2.5 cm. longis, densissime minute stellato-tomentellis; lamina ambitu rotundato-obovata 5.5–7.5 cm. longa 4–6 cm. lata, apice obtusa vel rotundata, basin versus interdum subcuneatim angustata, basi ipsa valde inaequali, latere interiore 3–4 mm. breviore, margine insigniter sinuato-undulato, lamina supra in sicco fusca subdense minute stellato-pilosula, pilis non intertextis, nervis subimpressis, subtus densissime pilis paullo majoribus stellatis ochraceis mollibus pilosa, costa gracili elevata, nervis lateralibus utroque latere 5–6 angulo recto vel angustiore adscendentibus rectis marginem attingentibus, venulis manifestis prominulis laxe reticulatis; flores aestivales; pedunculi e nodis annotinis nascentes crassi 3–4 mm. longi dense stellato-tomentosi plerumque triflori; calyx ca. 4 mm. longus extus densissime stellato-tomentosus, intus glaber, lobis ovalibus apice rotundatis; petala pallide lutea liguliformia 10–13 mm. longa paullo ultra 1 mm. lata glabra, apice anguste rotundata vel subtruncata.—Mexico: Abundant along the bank of an arroyo, "just beyond west puerto, Potrero Redondo to west to Puerto de la Laguna Sánchez and beyond," Municipio de Villa Santiago, State of Nuevo León, in flower, July 5, 1935, *C. H. Mueller 2116* (type in Herb. Field Mus.; duplicate in herb. Arnold Arb.).

The large collection of plants obtained in 1935 in the State of Nuevo León, Mexico, by Mr. C. H. Mueller, forwarded for determination to the writer through the courtesy of Dr. Alfred Rehder, has

proved to contain a surprisingly large number of plants of much more than ordinary interest. Some indicate unexpected extensions of range, others are second collections of species known previously only from the type collection, a large number are new, and several, like this *Hamamelis*, represent new generic records for Mexico.

Of all these noteworthy plants none has so much interest or was so unexpected as *Hamamelis mexicana*. At first glance it was assumed to be a quite distinct new species, as was to be presumed from the fact that it is far isolated from the nearest known occurrence of the genus, in Oklahoma and eastern Texas. Such cases of interrupted distribution are, however, not unknown in the Mexican flora, as might be proved by the citation of a considerable number of herbaceous and woody plants. More careful study led me to believe that the Mexican plant was probably only a variety of *H. vernalis* Sarg., which it resembles in many respects—in fact, most of the species of this small genus are much alike in superficial characters, although apparently well enough distinguished if examined by one who understands the characters by which they are best separated.

Dr. Edgar F. Anderson kindly examined the Mexican collection, and pointed out its distinctive characters, stating his belief that it was sufficiently distinct to be rated as a species. He indicated its close relationship to *H. macrophylla* Pursh, which it resembles in leaf shape and especially in the distinctive form of the flowering branches, i.e., those of the preceding year.

The most easily perceptible character of *H. mexicana* is the greatly elongate petiole of the terminal leaf of each branchlet. Although such an elongation is suggested in a few of the United Species specimens, usually there is no indication of it at all, and never does it reach the degree seen in the Mexican shrub.

No notes are given by the collector regarding the habit of *H. mexicana*, so it is not known whether the bushes grow in clumps and produce suckers, as in *H. vernalis*, or whether they are isolated and suckerless, as in *H. virginiana*. The time of flowering, in midsummer of the North, midway between *H. vernalis* on the one hand and *H. virginiana* and *H. macrophylla* on the other, is curious, but rather natural. Apparently *H. mexicana* is essentially vernal in flowering, the blossoms opening after the summer rains, which in New Mexico and northeastern Mexico produce a climatic condition comparable with that produced in the North by the spring increase in temperature.

ROSACEAE

Prunus novoleontis Standl., sp. nov.—Arbor 11-metralis, trunco 25 cm. diam., ramulis gracilibus ferrugineis pallido-lenticellatis, novellis hirtellis; folia mediocria breviter petiolata papyracea, petiolo 1–1.5 cm. longo dense ferrugineo-piloso; lamina elliptico-oblonga vel oblongo-ovata 5–10.5 cm. longa 3–4.5 cm. lata obtusa vel acuta, basi plus minusve inaequilaterali obtusa vel subrotundata, dense crenato-serrata, serraturis angustis valde incurvis, supra in sicco fusca lucida glabra, costa subimpressa, venulis prominulis arcte reticulatis, subtus pallidior rufescens, ubique dense pilis brevibus rufescentibus hirsuta, costa gracili prominente, nervis lateralibus utroque latere ca. 10 angulo latiusculo adscendentibus arcuatis; flores racemosi, racemis lateralibus ramos foliatos breves terminantibus pedunculatis laxe multifloris ca. 9 cm. longis dense pilosis, pedicellis fructiferis 5–8 mm. longis patentibus sparse pilosis vel glabratis; calyx sub fructum persistens 5–6 mm. latus patens glabratus; drupa globosa in sicco 8 mm. diam. glabra apice rotundata et apiculata.—Mexico: Common along various arroyos, Potrero Redondo west to Puerto de la Laguna Sánchez and beyond, Municipio de Villa Santiago, State of Nuevo León, July 5, 1935, *C. H. Mueller 2118* (type in Herb. Field Mus.; duplicate in herb. Arnold Arb.).

From both of the related species, *P. Capuli* Cav. and *P. virens* (Woot. & Standl.) Standl., this differs in the dense pubescence of the lower leaf surface.

Prunus Gentryi Standl., sp. nov.—Arbor, ramulis ferrugineis rugosis, novellis olivaceis minutissime fere microscopice puberulis, internodiis brevissimis; folia parva petiolata papyracea, petiolo gracili 7–9 mm. longo glabro; lamina oblongo-lanceolata 3.5–4.5 cm. longa 12–17 mm. lata apicem acutum vel subobtusum versus sensim attenuata, basi obtusa vel anguste rotundata, integra, supra in sicco olivacea sublucida glabra, costa subimpressa, nervis obsoletis, subtus paullo pallidior glabra, costa gracili prominente, nervis lateralibus utroque latere ca. 8 arcuatis obscuris, venis obsoletis, margine prope basin utroque latere glandulis 1 vel 2 onusto; flores racemosi, racemis axillaribus efoliatis pedunculo brevi incluso 3–3.5 cm. longis laxe pauci- vel multifloris, axi striato sparse minute pilosulo vel fere glabro, pedicellis crassis 4–5 mm. longis patentibus; calyx sub fructum persistens reflexus ca. 7 mm. latus, lobis ovalibus apice rotundatis viridescentibus glabris integris vel remote dentatis; drupa ovoidea 7–9 mm. longa apice subangustata glabra.—Mexico: Sierra Canelo,

Río Mayo, Sonora, in pine-oak country, growing by a stream, August 30, 1936, *Howard Scott Gentry 2514* (type in Herb. Field Mus.).

The Warihío name is reported as Wasiki. The fruit is eaten; the wood is employed for tool handles. The relationship of the species is with the large-leaved *P. rhamnoides* Koehne of Mexico.

LEGUMINOSAE

Lonchocarpus Lindsayi Standl., sp. nov.—Ramuli crassi fusco-ferruginei teretes, novellis glabris pallide elevato-lenticellatis dense foliatis; folia parva petiolata, petiolo cum rhachi 5.5–7.5 cm. longo glabro supra canaliculato; foliola circiter 11, 1–2 mm. longe petiolulata late ovata, ovalia vel oblongo-elliptica 1–2.5 cm. longa 7–13 mm. lata apice rotundata vel late obtusa et saepius brevissime emarginata, basi obtusa vel rotundata, crasse membranacea, glabra, supra cinereo-viridia opaca, costa subimpressa, nervis obsoletis, subtus fere concoloria, costa gracili elevata, venulis obscuris minute reticulatis; racemi axillares simplices pedunculati foliis longiores laxe multiflori usque 12 cm. longis, rhachi sparse minute puberula vel fere glabra, pedicellis 2–3 mm. longis; calyx glaber latissime campanulatus 2.5 mm. longus 4 mm. latus, margine integro vel subintegro; petala glabra, vexillo 8 mm. longo et aequilato apice retuso; legumen anguste oblongum valde compressum 3–5.5 cm. longum 10–12 mm. latum glabrum apice acutum vel rotundatum et abrupte breviter rostratum, basi acutum, sessile, marginibus tenuibus nullo modo incrassatis; semina vulgo 1–3.—Panama: Back of Bejuco, November 7, 1936, *Walter L. Lindsay 446* (type in Herb. Field Mus.). Also *No. 399*, collected at the same locality (in flower) July 27, 1936.

Distinct from most other species of the region in its exceptionally small and very obtuse or rounded leaflets.

Parosela scoparia (Gray) Heller, f. **Arsenei** Standl., f. nov.—A forma typica petalis violaceis insigni non nisi corolla alba differt.—New Mexico: Four miles north of Bernalillo, 1,600 meters, September 4, 1927, *Brother G. Arsène 18988* (type in Herb. Field Mus.).

This broom-like, usually leafless shrub, a characteristic plant of the lower desert region of New Mexico, bears normally rather handsome, violet flowers. An aberrant form with pure white flowers was scarcely to be expected.

RUTACEAE

Amyris Marshii Standl., sp. nov.—Frutex vel arbor omnino glabra, ramulis crassis teretibus fuscis rugosis lenticellatis, novellis

olivaceis dense glanduloso-punctatis, internodiis brevibus; folia parva breviter petiolata subcoriacea in sicco olivacea utrinque fusco-glanduloso-punctata, petiolo 5–13 mm. longo; lamina in sicco saepe complicata ovata vel elliptico-ovata 4–6.5 cm. longa 2–3.3 cm. lata, apicem obtusum vel acutum versus angustata, basi obtusa vel rotundata, supra sublucida, venis prominulis, subtus concolor, costa gracili prominente, nervis lateralibus utroque latere ca. 7 angulo latiusculo adscendentibus arcuatis prope marginem arcuato-junctis, venulis prominulis arcte reticulatis, margine integro; inflorescentia terminalis paniculata pedunculata circiter 4 cm. longa atque 3 cm. lata subdense multiflora erecta, ramis primariis brevibus angulo lato adscendentibus, bracteis late ovatis acutis minus quam 1 mm. longis, floribus aggregato-cymosis sessilibus vel brevissime crasse pedicellatis; calyx 1 mm. longus 1.5 mm. latus brevissime remote dentatus, dentibus latis acutiusculis, dense glanduloso-punctatus; petala ovalia vel late oblonga dense punctata 2.5–3 mm. longa apice rotundata glabra; stamina inaequalia petala aequantia, filamentis glabris crassiusculis, antheris parvis subglobosis; ovarium glabrum.—Mexico: Muzquiz, Coahuila, Spring of 1935, *Ernest G. Marsh 66* (type in Herb. Field Mus.); July, 1936, *Marsh 253* and *307*.

Related to *A. monophylla* Brandeg., of Oaxaca and Puebla, which differs in having shorter-petiolate leaves, smaller inflorescences, and rounded calyx lobes.

DICHAPETALACEAE

Dichapetalum chiapasense Standl., sp. nov.—Ramuli crassiusculi angulati fuscescentes, novelli minute fulvo-tomentulosi vel glabrati, internodiis brevibus paullo ultra 1 cm. longis; folia mediocria breviter petiolata coriacea, petiolo crasso 5–8 mm. longo tomentuloso vel glabrato; lamina anguste lanceolato-oblonga 8.5–12.5 cm. longa 2–3.5 cm. lata sensim longiacuminata, basin versus paullo angustata, basi ipsa anguste rotundata vel obtusa et paullo inaequali, supra in sicco fusco-olivacea, glabra vel ad costam paullo tomentulosa, costa impressa, nervis prominulis, subtus concolor primo ad nervos venasque sparse pilosa serius fere glabra, costa gracili elevata, nervis lateralibus utroque latere circiter 9 prominentibus pallidis arcuatis remotis angulo latiusculo adscendentibus remote a margine arcuato-conjunctis, venulis prominulis pallidis laxe reticulatis; inflorescentiae parvae pauci- vel multiflorae foliis duplo breviores, ramis crassis dense fulvo-tomentulosis, floribus breviter crasse pedicellatis; fructus magnus 1–2-locularis, 1-locularis late ovalis vel

subglobosus 2 cm. longus et 1.5 cm. latus vel ultra, 2-locularis rotundato-obovatus circiter 2 cm. longus et aequilatus, densissime adpresse fulvo-tomentulosus.—Mexico: Mount Orando, Chiapas, December 24, 1936, *E. Matuda 679* (type in herb. Univ. Michigan; fragment in Herb. Field Mus.).

This is the first representative of the family Dichapetalaceae to be recorded from Mexico. It is related to *D. Donnell-Smithii* Engler, common and widely distributed in Central America, which differs in its considerably broader leaves with much more abundant pubescence, and in its usually smaller fruits.

EUPHORBIACEAE

Manihot isoloba Standl., sp. nov.—Frutex gracilis 2–5-metralis omnino glaber, ramis crassiusculis teretibus ferrugineis, novellis glaucis sat dense foliatis; stipulae filiformes breves caducae; folia majuscula longipetiolata membranacea, petiolo gracili 5.5–12 cm. longo plus minusve glauco; lamina 5–11 cm. longa et aequilata, fere ad basin 5–9-partita, supra laete viridis, subtus glauca vel glaucescens, lobis inaequalibus, exterioribus brevioribus, oblongo-linearibus, lateribus fere parallelis, ca. 1 cm. latis, apice obtuso ad acuminato subito in acumen protracto-filiforme usque 7 mm. longum contractis, integris; flores masculi racemosi, racemis fere sessilibus ad 2.5 cm. longis paucifloris, pedicellis gracilibus glaucis ad 13 mm. longis, bracteis brevibus glauco-viridibus linearibus vel oblongis; calyx anguste campanulatus 12 mm. longus, lobis ovalibus obtusis tubo paullo brevioribus intus glabris, alabastris apice rotundatis vel obtusis; flores feminei in axillis supremis inserti vel racemum brevem efformantes; capsula globosa exalata 1.7 cm. longa glauca; semina grisea lucida laevia ca. 1 cm. longa atque 8 mm. lata.—Mexico: Guasaremos, Río Mayo, Chihuahua, growing with oaks, August 10, 1936, *Howard Scott Gentry 2372* (type in Herb. Field Mus.). Bakachaka, Río Mayo, Sonora, rocky hill slopes, July, 1935, *Gentry 1468*.

Local name Pata de gallo. "A slender, many-stemmed shrub; leaves blue-green." A well marked species because of its distinctive leaf form, the narrow lobes being all almost equal in breadth, with nearly parallel sides.

Phyllanthus Purpusii Brandeg. Univ. Calif. Publ. Bot. 6: 185. 1915.

Based upon material collected by C. A. Purpus on Cerro del Boquerón, Chiapas, Mexico. A second collection has been examined

recently: Mount Orando, Chiapas, December, 1936, *E. Matuda 523* (herb. Univ. Michigan; fragment in Herb. Field Mus.).

AQUIFOLIACEAE

Ilex Rimbachii Standl., sp. nov.—Arbor 15-metralis, trunco 50 cm. diam., ramulis crassis subteretibus fuscis striatis densissime pilis sordidis patentibus pilosis, internodiis brevibus; folia parva brevissime petiolata coriacea, petiolo crasso vix 3 mm. longo; lamina late ovalis vel ovalis, interdum ovato-ovalis, 3.5–4.5 cm. longa 2–3.5 cm. lata apice rotundata et apiculata vel obtusa, basi rotundata, subintegra vel remote adpresse spinuloso-serrata, supra in sicco fusca lucida, primo dense breviter pilosa glabrescens, nervis non elevatis, subtus concolor ubique dense pilis sordidis patentibus rigidulis pilosa, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 6 angulo lato divergentibus fere rectis remote a margine arcuato-junctis, venulis obscuris laxe reticulatis, margine vulgo recurvo; flores feminei axillares solitarii vel geminati, pedunculis gracilibus 5–8 mm. longis dense pilosis; calyx sub fructum persistens adpressus 5 mm. latus, lobis triangularibus acutis dense breviter pilosis; fructus globosus ca. 6 mm. diam. apice late rotundatus et mammillatus dense sordido-pilosus.—Ecuador: Forest region above Balsapampa, 2,600 meters, August, 1936, *Rimbach 789* (Yale No. 32979; type in Herb. Field Mus.).

"A forest tree 15 meters high, the trunk 50 cm. thick; young stems velvety-hairy; fruit upon a 5-lobed calyx, globular, 8 mm. thick, black-red, with a few seeds. Wood moderately hard, white; bark smooth, gray, with medium-sized, round warts." The species is noteworthy for the small, broad, thick-coriaceous leaves, and for the abundant, spreading pubescence that covers almost all parts.

MALVACEAE

Callirrhoe sidalceoides Standl., sp. nov.—Caulis visus 20 cm. tantum longus ut videtur decumbens simplex dense stellato-hirtellus, internodiis foliis paullo longioribus; folia longipetiolata herbacea, petiolo ca. 2.5 cm. longo subsparse stellato-hirtello; lamina ambitu reniformis ca. 3.5 cm. longa 4.5 cm. lata ad medium subaequaliter 5-loba, basi late cordata, sinu aperto acutiusculo, lobis profunde trilobis, lobis lateralibus iterum bilobis, terminali trilobo, lobis ultimis oblongo-ovatis obtusis, lamina supra dense albido-punctata et hispido-strigosa, subtus subsparse stellato-hispidula, pilis 2–4-radiatis albidis; flores axillares solitarii, pedunculis 3–7.5 cm. longis

unifloris dense stellato-hirtellis; bracteae paullo infra basin calycis insertae lineares hispidulae calyce duplo breviores; calyx 1.5 cm. longus extus dense pilis simplicibus et stellatis intermixtis hispidulus fere ad basin lobatus, lobis lanceolatis tubo triplo longioribus longe angustissime attenuatis prominente trinerviis; petala ut videtur purpurea 2.5 cm. longa extus glabra.—Mexico: Muzquiz, Coahuila, Spring of 1935, *Ernest G. Marsh 100* (type in Herb. Field Mus.).

The plant, unfortunately, is known only from a single and scant specimen, but the characters it exhibits seem to differentiate it from all species known from the general region in which it grows.

BOMBACACEAE

Millea Standl., gen. nov.—Arbores procerae inermes, radicibus tuberculos magnos emittentibus; folia alterna longipetiolata digitata, foliolis membranaceis sessilibus crenatis; flores parvi hermaphroditi dense pilosi in paniculas laxas multifloras repetite ramosas dispositi; calyx cupulatus truncatus; stamina circiter 20, columna brevi angusta, filamentis in margine disci columnae insertis liberis filiformibus erectis glabris 1-antheriferis subaequalibus, antheris parvis reniformibus; petala libera extus dense retrorso-pilosa angusta; ovarium 5-loculare; capsula parva crasse coriacea vel sublignosa 5-valvis, loculis intus densissime lanatis; semina pauca oblique ovoidea lana endocarpii involuta, hilo laterali, testa crustacea laevi.

The genus represented by this unusual tree is clearly a most distinct one. It belongs in the alliance of *Bombax, Ceiba,* etc., where it is well distinguished by the very small flowers, disposed in large panicles, by the closely serrate leaflets, and the curious, small capsules. It is dedicated to Rev. Luis Mille, S. J., who has devoted many years and much labor to investigation of the still imperfectly known flora of Ecuador, especially that of the coastal region lying about Guayaquil.

Millea ecuadorensis Standl., sp. nov.—Ramuli crassi glabri vel sparse puberuli in sicco fusco-ferruginei; folia magna longipetiolata, petiolo crassiusculo 11–28 cm. longo tereti sparse patentipiloso brunnescente; foliola ca. 6 sessilia membranacea obovata vel elliptico-obovata subinaequalia, circiter 20 cm. longa atque 8.5 cm. lata vel minora, abrupte breviter acuminata, acumine vix ultra 1 cm. longo, basin versus sensim longe cuneato-attenuata, basi ipsa acuta vel acuminata, in toto margine arcte crenata, supra in sicco viridia aspera ubique sparse hirtello-scabra, nervis manifestis sed non elevatis, subtus paullo pallidiora ubique subdense pilis simplicibus

patentibus molliter pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 16 angulo lato divergentibus subarcuatis prope marginem laxe reticulato-conjunctis, venulis inconspicuis laxe reticulatis; panicula crasse 9 cm. longe pedunculata ca. 18 cm. lata et paullo brevior, floribus numerosissimis, ramis ferrugineis minute griseo-stellato-tomentulosis, floribus cymosis vel breviter racemosis, pedicellis crassiusculis 3–12 mm. longis minute tomentellis; calyx late cupulatus 2.5 mm. longus fere 5 mm. latus truncatus extus minute tomentellus, intus sericeus; petala oblongo-linearia 1.5 cm. longa vix ultra 2 mm. lata obtusa intus sericea, extus densissime pilis albis retrorsis adpressis sericeis induta; columna staminea 4 mm. longa glabra; filamenta ca. 1 cm. longa, antheris ca. 0.3 mm. diam.; stylus ca. 13 mm. longus glaber; capsula subdepresso-globosa 2 cm. longa, apice late rotundata vel subtruncata et apiculata brunnea laevis lucida, valvulis ca. 1 cm. latis intus subrugosis, lana laete rufa; semina ca. 7 mm. longa opaca nigra, maculis elongatis pallidioribus notata.—Ecuador: In regione tropice "sabana" prope Guayaquil, in flower, July–August, 1936, *Luis Mille 885* (type in Herb. Field Mus.). Portovelo, *Rose & Rose 23371*.

Vernacular name Chirigua. Father Mille has forwarded two of the smaller tubercles, which are subglobose and about 10 cm. in diameter, hollow, and densely covered with dark, irregular, imbricate scales. He states that some of the tubercles attain a much greater size. Rose reported the local name of "polopolo."

FLACOURTIACEAE

Hasseltia guatemalensis Warb. in Engl. & Prantl, Nat. Pflanzenfam. III. Abt. 6a: 32. 1893.

Apparently a little known but amply distinct species of this small genus. The following collection, constituting a new species record for Mexico, appears to agree well with the type as represented by a photograph in the Herbarium of Field Museum: Siltepec, Chiapas, January, 1937, *E. Matuda 385* (herb. Univ. Michigan).

CARICACEAE

Jarilla Chocola Standl., sp. nov.—Herba simplex omnino glabra; folia longissime petiolata membranacea, petiolo gracili 7–20 cm. longo; lamina ambitu late ovato-rotundata, saepe latior quam longa, 6–16 cm. longa, 6–20 cm. lata, saepius breviter triloba, interdum elobata, margine grosse irregulariter dentato vel dentato-lobato, lobis apice acutis vel acuminatis, lamina basi truncata vel

concava 3–5-nervia, supra viridis, subtus glaucescens; inflorescentiae masculae axillares solitariae 15–23 cm. longe pedunculatae, cymosae, congestae, pauci- vel multiflorae ca. 3 cm. longae, floribus sessilibus vel breviter pedicellatis; calyx minutus vix 1 mm. longus; corolla alba, tubo 6–7 mm. longo superne paullo dilatato, fauce 2 mm. lato, lobis oblongis obtusis patentibus 5–6 mm. longis obtusis; antherae breviter exsertae; flores feminei axillares solitarii 3–4 mm. longe pedunculati recurvi; fructus juvenilis late globoso-ovoideus fere 2 cm. longus, apice rotundatus et subito 3 mm. longe rostratus, basi subtruncatus et appendicibus 5 fere spiniformibus ca. 3 mm. longis retrorsis appendiculatus.—Mexico: Guasaremos, Río Mayo, Chihuahua, shaded slopes, often under *Guazuma ulmifolia* and other lowland trees with grass and shrubs, August 10, 1936, *Howard Scott Gentry 2366* (type in Herb. Field Mus.); at the same locality, August 5, 1935, *Gentry 1553*. San Bernardo, Río Mayo, Sonora, valley forest, August 24, 1935, *Gentry 1624*.

Vernacular names Chócola and Kapiáh (Warihío names). Although clearly referable to the endemic Mexican genus *Jarilla*, this plant is altogether unlike the two other species of the genus, particularly in leaf form. Regarding this curious and apparently local plant, the collector supplies the following information:

"Chiefly from memory I will tell you what I can of *Jarilla Chocola*. It is a leafy, succulent, and fast-growing annual, less than a meter in height, single-stemmed, and with white flowers. It apparently germinates with the first of the summer rains (presumably the plant is a perennial from a fleshy root, the stems dying to the ground each year—P. C. S.), for I found it with flowers and immature fruit the first part of August. It is a shade-adapted plant, living its short term under the steaming foothill forest trees, which in summer are casting their fullest shade. It seems fairly hardy, for in close competition there are a number of species, such as *Acalypha* sp., *Rivina humilis*, *Gronovia scandens*, *Priva aspera*, and others, forming an association of forest summer underlings.

"Its span of life is short. No sooner have the warm rains passed than the plant wilts and dies under the strong September sun. Its last moments are spent in maturing its fruit. All through the long fall until long after the death of the parent plant, the traveler will chance upon the fruits lying scattered upon the ground, or shoaled along the margins of the lesser washes where some sudden rain water has borne them. Nor has the fruit suffered the least decomposition upon its dank, earthy bed, as with so many of the fleshy, thin-

skinned fruits, but rather seems to partake of the renewed moisture and lies fresh, plump, and firm in the hand. It was thus that I first discovered it, and searched in vain for the plant that bore it, to the then misunderstood humor of my native companion.

"The fruit is oval, 6–7 cm. in length by 3–4 cm. in diameter, deciduous from its stalk. It bears several ribs moderately tubercled or irregularly crenate. Its pulp is a light, white, pudding-like mass of slightly acidulous flavor remotely suggestive of lemon. Centrally are imbedded half a hundred or more seeds. Some of the Mexicans and Indians evince a real liking for the fruit. Its cool tartness is refreshing, and an attachment can be readily understood, when one remembers that taste can be bent with a little hunger and courage to a new flavor.

"I have been told that the root is thick and fleshy and good to eat when roasted. Among the Warihíos it is one of the important wild food plants, carrying them over the hunger period before the corn harvest. The name chócola is used by the Mexicans for the fruit. The root they speak of as cápida, a corruption of the Warihío name for the plant, kapiáh."

MYRTACEAE

Eugenia hiraeifolia Standl., sp. nov.—Ramuli crassi griseo-ferruginei ut videtur in statu juvenili minute pallido-tomentelli, internodiis 4.5–5.5 cm. longis; folia breviter petiolata firme chartacea, petiolo ca. 7 mm. longo minutissime albido-tomentello vel glabrato; lamina late obovata vel oblongo-obovata 12–14 cm. longa 6–8 cm. lata, apice late rotundata vel fere truncata et breviter apiculato-acuminata vel interdum apice obtuso subacuta, basin versus sensim cuneato-angustata, basi ipsa anguste obtusa, supra in sicco viridis glabra, costa subimpressa, nervis manifestis et fere planis, subtus paullo pallidior, in statu juvenili ut videtur minute adpresso-tomentella sed in adulto fere omnino glabra, ubique minute obscure punctata, costa gracili elevata, nervis lateralibus utroque latere ca. 11 angulo fere recto adscendentibus fere rectis remote a margine irregulariter arcuato-conjunctis, venulis prominulis laxe reticulatis; flores ut videtur in cymas axillares paucifloras crasse 2 cm. longe pedunculatas dispositi; bacca magna late ovali-obovata 2.5 cm. longa 1.8 cm. lata, basi paullo angustata, apice late rotundata et calyce persistente coronata, lobis calycis late rotundatis brevibus.—Panama: Monte Oscuro, near Panama City, September 23, 1935, *James Zetek 3550* (type in Herb. Field Mus.).

The available material is not as ample as might be desired, and, unfortunately, with fruit only. The large, broad leaves indicate a species, perhaps referable to some other genus than *Eugenia*, that is unlike anything previously known from the region of the Isthmus.

Eugenia nesiotica Standl., sp. nov.—Frutex, in statu florifero defoliatus, ramis gracilibus teretibus cinnamomeis rimosis, novellis griseo-puberulis vel subsericeis, internodiis brevibus; folia parva breviter petiolata crasse papyracea, petiolo vix ultra 2.5 mm. longo puberulo; lamina lanceolato-oblonga vel lanceolato-elliptica 4–5 cm. longa 12–20 mm. lata subabrupte longiacuminata, acumine angusto apice obtuso, basi obtusa vel acuta, utrinque ad costam puberula vel subsericea, aliter glabra vel glabrata, supra in sicco griseo-viridis opaca, subtus concolor, punctis pellucidis sat densis sed vix obviis, costa tenera prominente, nervis lateralibus utroque latere ca. 13 tenerrimis vix manifestis angulo lato divergentibus fere rectis remote a margine arcuato-junctis, venulis obscuris arcte reticulatis; flores in axillis fasciculati numerosi, pedicellis plerumque 5–6 mm. longis gracilibus pilis albidis subpatentibus pilosulis; hypanthium dense albido-tomentulosum; sepala paullo ultra 2 mm. longa rotundata puberula vel glabrata punctata; petala rotundata 3.5 mm. longa glabra marginibus minute ciliolata dense punctata.—Panama: Barro Colorado Island, Canal Zone, in 1936, *James Zetek 3646* (type in Herb. Field Mus.; in bud only); April 28, 1937, *Zetek 3835* (flowers).

ONAGRACEAE

Gaura Gentryi Standl., sp. nov.—Herba erecta ca. 60 cm. alta, caule gracili superne subumbellato-ramoso, rubro tincto, dense minute cinereo-puberulo et subdense pilis longis pallidis usque 5 mm. longis patentibus piloso, laxe foliato; folia breviter petiolata membranacea, petiolo gracili ad 8 mm. longo; lamina lanceolato-linearis 4.5–6 cm. longa 4–10 mm. lata apicem versus longe sensim attenuata, basi attenuato-acuta, remote breviter repando-dentata, supra dense minute pilosa tactu sericea, subtus concolor dense minute sericeo-pilosula et sparse praesertim ad costam longihirsuta; flores spicati, spicis longipedunculatis 3–11 cm. longis remotifloris, floribus paucis vel numerosis arcte sessilibus, rhachi dense incurvo-puberula; ovarium 8 mm. longum fere lineare dense griseo-incurvo-puberulum; calyx extus dense puberulus in alabastro subacuminatus, tubo gracillimo 2–2.5 cm. longo vix 1 mm. crasso, lobis linearibus 2 cm. longis 3 mm. latis; petala pallide lutea ca. 2 cm. longa glabra; filamenta ca. 17 mm. longa glabra, antheris linearibus 5 mm. longis;

fructus immaturus oblongo-ovoideus 8 mm. longus 4 mm. latus grosse obtuse costatus griseo-incurvo-puberulus.—Mexico: Guasaremos, Río Mayo, Chihuahua, on rocky outcroppings, September 26, 1935, *Howard Scott Gentry 1859* (type in Herb. Field Mus.).

"The pale yellow flowers open in the evening, and in the sunshine hang wilted and closed. Observed later on Cerro Güicorichi." The relationship of this large-flowered plant is with the Mexican *G. mutabilis* Cav. (represented in the Herbarium of Field Museum by authentic material) and *G. grandiflora* Rose, described from Chihuahua. If pubescence may be relied upon for separating species of *Gaura*, which is somewhat doubtful, the present plant is amply distinct from both those species in the close, incurved pubescence of the ovaries and fruit. In *G. grandiflora* the fruit is glabrous; in *G. mutabilis* densely pilose with spreading hairs.

Hauya Lundellii Standl., sp. nov.—Arbor 23-metralis, trunco 35 cm. diam., ramulis ochraceis plus minusve nodosis, novellis viridibus sparse minute puberulis cito glabratis, internodiis brevibus; folia mediocria petiolata subcoriacea, petiolo gracili 1–3 cm. longo sparse obscure puberulo vel glabro; lamina anguste oblanceolato-oblonga vel anguste elliptico-oblonga 7–12.5 cm. longa 2.5–4.5 cm. lata sensim vel subabrupte acuminata vel acuta, basin versus saepius longe angustata, basi ipsa acuta vel acuminata et plus minusve inaequali, integra vel paullo undulata, supra in sicco griseo-viridis glabra elevato-puncticulata, nervis manifestis sed non elevatis, subtus paullo pallidior, glabra vel ad costam sparse hinc inde pilosa, costa gracili pallida elevata, nervis lateralibus utroque latere 7–8 angulo lato adscendentibus valde arcuatis, venulis laxe reticulatis; flores axillares solitarii crasse usque 6 mm. longe pedunculati, ovario glabro angusto 13 mm. longo; calyx extus glaber pallide viridis, tubo circiter 4 cm. longo medio 3 mm. lato, fauce dilatato, lobis 3.5 cm. longis apice non appendiculatis subobtusis lineari-lanceolatis; capsula anguste clavata 4–4.5 cm. longa 1 cm. lata obtusa, basin versus paullo angustata, teres.—British Honduras: Valentin, El Cayo District, on limestone hill in advanced forest, June–July, 1936, *C. L. Lundell 6318* (type in Herb. Field Mus.; duplicate in herb. Univ. Michigan).

"Trunk light tan, fluted." The genus is new for the flora of British Honduras. The species appears to be a clearly distinct one, related to *H. Barcenae* of Oaxaca which has broader, puberulent leaves, rounded at the base.

ARALIACEAE

Oreopanax artocarpoides Standl., sp. nov.—Arbor 6–8-metralis, ramulis crassis apicem versus dense foliatis, internodiis brevibus dense minute stellato-tomentulosis vel glabratis; folia mediocria longe petiolata crasse coriacea, petiolo crassiusculo basi valde dilatato usque 10 cm. longo minute stellato-tomentello vel glabrato; lamina lanceolato-oblonga vel oblongo-ovata 11–20 cm. longa 3–8 cm. lata longe sensim apicem versus attenuata, apice ipso acuto vel obtuso, basi rotundata vel truncata, supra in sicco flavescens lucidissima, glabra vel ad costam minute stellato-tomentella, nervis subimpressis, subtus pallida lutescens densissime minute stellato-tomentella, basi 5-nervia, costa crassa elevata, nervis lateralibus utroque latere circiter 10 angulo semirecto vel paullo latiore adscendentibus valde irregularibus prope marginem irregulariter arcuato-conjunctis, venis prominulis laxe reticulatis; pedunculi axillares monocephali crassi 5–6 cm. longi minute stellato-tomentelli vel glabrati; capitula densissime multiflora globoso-ovoidea 3–4 cm. longa 3 cm. lata apice late rotundata, bracteis floribus paullo longioribus apice dense brunneo-tomentosis; fructus glaber 1 cm. longus et ultra apice truncatus.—Bolivia: Sailapata, Department of Cochabamba, 3,600 meters, in wet soil at forest edge, October, 1935, *Martín Cárdenas 3350* (type in Herb. Field Mus.).

OLEACEAE

Forestiera Shrevei Standl., sp. nov.—Frutex 4.5 m. altus ut videtur dense rigide ramosus, ramis crassis fusco-ferrugineis teretibus rimosis lenticellis paucis pallidis elevatis conspersis, novellis dense patenter pilosis; folia parva opposita vel plerumque in ramulis brevibus lateralibus dense congestis breviter petiolata herbacea, petiolo pilosulo vix 2 mm. longo; lamina oblonga vel anguste oblonga, interdum oblanceolato-oblonga, 12–22 mm. longa 4–7 mm. lata, apice obtusa vel rotundata, basi acuta vel breviter acuminata, integra, utrinque dense molliter pilis pallidis patentibus pilosula, costa gracili subtus prominente, nervis lateralibus obsoletis; flores plerumque ad nodos defoliatos fasciculati, pedicellis gracilibus 3–5 mm. longis glabris; ovarium glabrum, stylo gracili fere 2 mm. longo glabro; drupa oblique oblonga 5 mm. longa striata glabra.—Arizona: Above Alamo Ranch, Ajo Mountains, Pima County, 720 meters, March 19, 1933, *Forrest Shreve 6201* (type in Herb. Field Mus.). Sierra Tucson, April 24, 1884, *W. F. Parish 218.*

Probably this is *F. neomexicana* var. *arizonica* Gray, although this is by no means certain. At any rate, this clearly distinct Arizona shrub deserves rank as a species. The narrow, obtuse or rounded, entire, densely pubescent leaves are quite unlike those of *F. neomexicana*, which seems to be remarkably uniform in leaf characters.

CONVOLVULACEAE

Ipomoea Chilopsidis Standl., sp. nov.—Frutex 2–5-metralis omnino glaber pauciramosus, ramis gracilibus pallidis puncticulatis, internodiis brevibus; folia breviter petiolata crasse herbacea, petiolo gracili ca. 1 cm. longo; lamina linearis 6.5–19 cm. longa et ultra 6–8 mm. lata, apicem longum filiformem versus longissime sensim attenuata, basin acutam versus brevius attenuata, integra, in sicco fuscescens, opaca, costa gracili subtus prominente, nervis obscuris; flores magni axillares solitarii, pedunculo crassiusculo 5–15 mm. longo, pedicello 1–2 cm. longo superne fistuloso-incrassato; sepala 1.5 cm. longa coriacea oblongo-ovata vel late ovata, exteriora obtusa vel subacuta, interiora apice rotundata, erecta; corolla alba, fauce purpureo, tubo ca. 6 cm. longo e basi ad apicem subsensim dilatato, fauce fere 2.5 cm. lato, limbo patente ca. 7 cm. lato; antherae lineares 9 mm. longae.—Mexico: Guasaremos, Río Mayo, Chihuahua, on oak and pine rims, August 16, 1936, *Howard Scott Gentry 2391* (type in Herb. Field Mus.).

"Shrub 2–5 meters high, with few irregular branches. Flowers white with purple throat. Singularly of the high and arid rims." An isolated species, remarkable for its combination of erect, shrubby habit and extremely long and narrow leaves.

Jacquemontia luxurians (Moric.) Hallier.—This species has a wide distribution in South America, but, so far as I know, it has not been recorded from North America. The following collection, distributed as *Aniseia martinicensis* (Jacq.) Choisy, to which the plant has little similarity except in leaf form, represents the species: Lancetilla Valley, near Tela, Honduras, *Standley 55766*. The plant is a large, herbaceous vine with small, white flowers in dense cymes.

VERBENACEAE

Clerodendron Matudae Standl., sp. nov.—Ramuli graciles teretes striati pallide olivacei paullo nodosi ad nodos dense fulvo-villosi, alibi sparsissime villosuli vel fere omnino glabri, internodiis plerumque elongatis; folia mediocria breviter petiolata membranacea ad apices ramulorum aggregata, petiolo gracili vix ultra 6 mm. longo

sparse puberulo et pilis paucis longioribus consperso; lamina oblongo-oblanceolata vel anguste lanceolato-oblonga 11–17 cm. longa 3.5–6 cm. lata longe sensim acuminata, basin versus sensim attenuata, basi ipsa acuta, supra in sicco laete olivacea ad costam minute sparse puberula, venulis prominulis, subtus paullo pallidior ad costam gracilem prominentem sparsissime pilosa vel glabra, nervis lateralibus utroque latere circiter 7 gracillimis arcuatis angulo fere recto adscendentibus; flores terminales aggregati, pedicellis longissimis gracilibus ut videtur subrecurvis 4.5–6.5 cm. longis glabris; calyx glaber campanulatus 2 mm. longus subangulatus basi subacutus, remote minute 5-denticulatus, inter dentes subtruncatus; corolla glabra, tubo gracili 1 cm. longo medio 1.5 mm. crasso ore paullo latiore, lobis 5 anguste oblongis apice rotundatis circiter 11 mm. longis et 2–2.5 mm. latis venosis patentibus; filamenta 8 mm. longe exserta, antheris circiter 1.5 mm. longis.—Mexico: Mount Orando, Chiapas, December 16, 1936, *E. Matuda 572* (type in herb. Univ. Michigan; fragment in Herb. Field Mus.).

The only other species native in Mexico, *C. ligustrinum* (Jacq.) R. Br., has little in common with the present plant.

Lippia Gentryi Standl., sp. nov.—Frutex 1–2-metralis ut videtur dense ramosus, ramis teretibus ochraceis densissime pilis brevibus patentibus glanduloso-villosulis et plus minusve breviter hirsutis, internodiis brevibus; folia parva breviter petiolata subcoriacea solemniter rugosa, petiolo crassiusculo 6–8 mm. longo dense glanduloso-villosulo; lamina lanceolato-ovata 2.5–3.5 cm. longa 1–1.5 cm. lata, apicem acutum versus sensim angustata, basi rotundata vel obtusa, in toto margine dense acute serrata, supra densissime glanduloso-villosa tactu aspera, nervis venisque impressis, subtus grisea densissime pilis eglandulosis vel interdum glandulosis paucis intermixtis plus minusve intertextis pilosa, costa gracili prominente, nervis lateralibus utroque latere ca. 10 angulo semirecto adscendentibus subarcuatis; flores spicati, spicis capituliformibus circiter 1.5 cm. longis atque 2 cm. latis axillaribus geminatis, pedunculis gracilibus ca. 1.5 cm. longis glanduloso-villosis et breviter hirsutis, bracteis pallide viridibus fere membranaceis in statu fructifero accrescentibus late ovatis vel rotundato-ovatis acutis vel acuminatis arcte imbricatis numerosissimis dense pilis brevibus glandulosis et longioribus eglandulosis patentibus pilosis; calyx densissime pilis longis albis pilosus; corolla 6–7 mm. longa, tubo gracillimo extus glabro, lobis brevissimis extus dense albido-hirtellis.—Mexico: Agrimincor, Río

Mayo, Sonora, on oak slope, April 6, 1937, *Howard Scott Gentry 3039* (type in Herb. Field Mus.). Sierra Chiribo, Río Mayo, Sonora, oak mesa, *Gentry 1785*. Algodones, Río Mayo, Sonora, oak ridge, *Gentry 2037*.

A relative of the Lower Californian *L. barbata* Brandeg.

LABIATAE

Monarda Bartlettii Standl., sp. nov.—Herba erecta ca. 60 cm. alta, caule monocephalo obtuse quadrangulato puberulo et sparse pilis longis albis laxis patentibus piloso, internodiis plerumque foliis longioribus; folia breviter petiolata membranacea, petiolo 2–7 mm. longo dense longipiloso; lamina oblongo-deltoidea vel deltoideo-lanceolata 5–8 cm. longa 2–4 cm. lata apicem acutum versus longe sensim attenuata, basi late rotundata et subcordata, supra dense impresso-punctata et sparse longipilosa, subtus pallidior, dense punctata, minute puberula atque dense longipilosa, apicem versus integra, aliter remote adpresso-serrata; capitula densissime multiflora, corollis exclusis 3 cm. diam., basi bracteis foliaceis viridibus vel ut videtur roseis floribus fere aequilongis fulcrata, bracteis setaceo-filiformibus calycem aequantibus vel brevioribus; calycis tubus angustus ca. 1 cm. longus 10-nervius sparse glanduloso-punctatus dense pilis mollibus longis et brevibus intermixtis pilosus, fauce dense albo-barbatus, dentibus 2.5–3 mm. longis subpatentibus e basi triangulari spinoso-subulatis glandulosis et sparse pilosis; corolla purpureo-rubra extus ubique pilis longis laxis albidis sparse pilosa, tubo ca. 2.5 cm. longo sursum sensim dilatato fauce 5 mm. lato, labio superiore 1.5 cm. longo erecto, inferiore ca. 1 cm. longo; stamina paullo labio superiore longiora.—Mexico: La Begonia, vicinity of San José, Tamaulipas, 960 meters, July 5, 1930, *H. H. Bartlett 10094* (type in Herb. Field Mus.; duplicate in herb. Univ. Michigan).

Close to *M. Pringlei* Fernald, to which the writer once referred it, but in that the long, weak hairs so plentiful upon *M. Bartlettii* are altogether lacking, the calyx is merely minutely puberulent and only sparsely barbate in the throat, its teeth longer and merely beset with short-stipitate glands.

Monarda Eplingiana Standl., sp. nov.—Herba erecta circiter 60 cm. alta, caule simplici monocephalo gracili obtuse quadrangulato fere glabro sed ad nodos dense breviter pilosulo, internodiis foliis duplo longioribus; folia petiolata membranacea, petiolo gracili 5–8 mm. longo puberulo vel glabrato; lamina oblongo-lanceolata vel oblongo-ovata 2.5–4.5 cm. longa 1–2.5 cm. lata, apicem acutum

versus longe sensim attenuata, basi rotundata, minute remote adpresso-serrata, apicem versus integra, supra in sicco laete viridis dense minute punctata sparse puberula vel glabrata, subtus paullo pallidior dense punctata tantum ad costam cinereo-puberula, aliter glabra; capitula dense pauciflora, corollis neglectis vix ultra 1 cm. lata, bracteis paucis foliaceis lanceolatis viridibus plus minusve rubro tinctis calycibus interdum duplo longioribus fulcrata, floribus arcte sessilibus, bracteis paucis setiformibus calyce brevioribus; calycis tubus cylindraceus 8 mm. longus prominente nervosus sparse glanduloso-punctatus, sparse vel densius breviter pilosus, fauce densissime longibarbato, dentibus subpatentibus e basi triangulari subulato-acuminatis vix 1.5 mm. longis; corolla ut videtur fere coccinea (an purpureo-rubra?) sparse laxe longivillosa, tubo fere 2.5 cm. longo sursum sensim dilatato fauce 4 mm. lato, labio superiore erecto ad 12 mm. longo, inferiore ca. 8 mm. longo; stamina labio superiore paullo longiora.—Mexico: Del Carmen Mountains, Coahuila, in 1936, *Ernest G. Marsh, Jr. 604* (type in Herb. Field Mus.). Also *No. 818* from the same locality, collected in September, 1936.

This also is related to *M. Pringlei* of Nuevo León, but differs in its shorter calyces with much shorter teeth, also in the somewhat different indument of the leaves. The species is dedicated to Dr. Carl Epling, monographer of the American Labiatae.

SCROPHULARIACEAE

Pentstemon Gentryi Standl., sp. nov.—Herba elata, ut videtur 60 cm. alta vel ultra superne laxe ramosa, caulibus teretibus pallide brunnescentibus laevibus glabris, internodiis brevibus; folia sessilia lanceolato-linearia 5–12 cm. longa 2–7 mm. lata apicem versus longissime anguste attenuata, basin versus quoque paullo attenuata, in 2 tertiis superioribus acute adpresso-serrata, versus basin integra, herbacea glabra, nervis lateralibus obsoletis; rami floriferi numerosi elongati, anguste thyrsoideo-paniculiformes ca. 15 cm. longi laxe multiflori, pedunculis 1–3-floris, bracteis foliis similibus sed multo brevioribus saepe integris, pedicellis curvis 1 cm. longis vel brevioribus sparse villosulis vel glabris; sepala 1 cm. longa lineari-lanceolata subabrupte longe anguste attenuato-acuminata sparse villosula vel fere glabra; corolla 3 cm. longa extus glabra, prope basin in tubum 5 mm. longum crassum contracta, supra tubum abrupte expansa, fauce 1.5 cm. lata, lobis lavandulaceis ca. 6 mm. longis apice rotundatis intus glabris, tubo albo; staminodium glabrum; filamenta glabra, antherae loculis divaricatis fere 2 mm. longis toto longitudine

dehiscentibus glabris; capsula immatura glabra ovoideo-globosa 8 mm. longa apice rotundata et subito in stylum ca. 17 mm. longum contracta.—Mexico: Canelas, Río Mayo, Chihuahua, in forest on mesas and in arroyos, October 2, 1935, *Howard Scott Gentry 1910* (type in Herb. Field Mus.).

Among Mexican species of *Pentstemon* with large, broad corollas the plant is conspicuous on account of its long and extremely narrow leaves.

GESNERIACEAE

Columnea venusta Standl., sp. nov.—Frutex epiphyticus, ramis crassis subteretibus longitrorsum rugosis rubro-ferrugineis, internodiis brevibus pilis plurilocularibus purpurascentibus sat dense villosis; folia mediocria brevissime petiolata in sicco coriacea, foliis paris valde inaequalibus, petiolo crasso vix ad 3 mm. longo purpureo-villoso; lamina oblonga vel lanceolato-oblonga, laminis majoribus circiter 7.5 cm. longis atque 2 cm. latis, apice acuminata vel longi-acuminata, basi valde inaequilateralis, latere interiore semiobtusa vel semirotundata, altero auriculata et cordata, auricula rotundata, supra in sicco griseo-viridis dense minute puncticulata glabra, costa subimpressa, nervis obsoletis, subtus sparse albido-strigosa, ad costam nervosque dense purpureo-villosa, costa crassiuscula prominente, nervis lateralibus utroque latere 4–5 angulo acuto adscendentibus remotis leviter arcuatis in marginem supra medium desinentibus, venis obsoletis; flores ad axillas solitarii, pedunculo gracili apice recurvo 4–5 cm. longo dense pilis longis purpureis patentibus vel adscendentibus villoso; calyx basi obliquus fere aequaliter partitus extus subdense purpureo-villosus intus glaber, lobis fere 2 cm. longis ovatis basi rotundatis vel subcordatis profunde laciniato-lobatis, lobis utroque latere circiter 5 angustis, terminali fere integro sensim acuminato; corolla rubra 7.5 cm. longa extus subsparse pilis longis laxis villosa, tubo leviter incurvo fauce 12 mm. lato, lobis 2 inferioribus oblongo-ovatis 2 cm. longis, postico usque 3.5 cm. longo trilobo apice late rotundato et brevissime emarginato; antherae 3 mm. longae; stylus circiter 7 cm. longus sparse villosulus.—Guatemala: Along trail, Finca Volcán to Cerro Sillab, Senahú, Alta Verapaz, July 27, 1936, *W. R. Hatch & C. L. Wilson 154* (type in Herb. Field Mus.).

In a genus noted for its many handsome species, this must be an unusually showy plant because of the exceptionally large corollas.

Solenophora Wilsonii Standl., sp. nov.—Herba erecta vel frutex humilis, ramulis subteretibus gracilibus pilis brevissimis

crassis fere papilliformibus dense indutis, internodiis brevibus vel paullo elongatis; folia opposita longipetiolata membranacea, petiolo 1.5–4 cm. longo gracili dense vel sparse papillloso-villoso; lamina forma variabilis, elliptica, late ovato-elliptica, oblongo-elliptica vel interdum obovato-elliptica 9–15 cm. longa 4.5–8 cm. lata breviter acuminata vel interdum tantum acuta, basi plus minusve inaequali acuta vel rare subrotundata et subito contracto-decurrens, in fere toto margine grosse vel adpresse serrata, supra in sicco viridis sparsissime breviter villosa, subtus paullo pallidior ad nervos venasque pilulis crassis papilliformibus subdense conspersa, costa gracili, nervis lateralibus utroque latere circiter 10 angulo lato adscendentibus arcuatis, venulis prominulis laxe reticulatis; flores axillares solitarii, pedunculo 7–10 mm. longo, hypanthio obovoideo 3–4 mm. longo ut petiolo dense papilloso-villosulo; calyx campanulatus viridis vel atropurpureus 1.5 cm. longus fere 1 cm. latus sparse breviter villosulus, lobis brevibus inaequalibus subrotundatis grosse dentatis; corolla ut videtur alba extus sparse pilis longis albidis villosa, tubo 3 cm. longo superne sensim dilatato, ore 1–1.5 cm. lato, lobis subaequalibus late rotundatis intus glabris, marginibus dense fimbriato-dentatis, dentibus angustis attenuatis glanduloso-puberulis.—Guatemala: Chacirociha, Finca Seamay, Senahú, Alta Verapaz, August 1, 1936, *W. R. Hatch & C. L. Wilson 201* (type in Herb. Field Mus.). Also another specimen from the same locality, with the same number, collected July 30.

RUBIACEAE

Amaioua contracta Standl., sp. nov.—Arbuscula 5.5 m. alta, ramulis crassis breviter dense hispidis, internodiis brevissimis; stipulae tenues basi circumscissae ferrugineae fere 2 cm. longae acutiusculae extus dense adpresso-hispidae intus glabrae; folia mediocria brevissime petiolata subcoriacea, petiolo crasso vix ad 5 mm. longo piloso; lamina lanceolato-oblonga vel oblongo-ovata 14–17 cm. longa 5–7 cm. lata abrupte caudato-acuminata versus basin abrupte contracta et fere ad basin petioli acuminato-decurrens, supra in sicco sublucida brunnescens ad costam nervosque adpresso-hispida aliter glabra vel in statu juvenili ut videtur sparse hispida, costa nervisque vix prominulis, subtus paullo pallidior, undique, ad costam nervosque densius, adpresso-hispida, costa gracili elevata, nervis lateralibus utroque latere circiter 15 elevatis angulo latiusculo adscendentibus leviter arcuatis in marginem desinentibus, nervulis prominulis arctissime reticulatis; flores masculi ad apicem ramuli capitati numerosissimi arcte sessiles; calyx extus densissime pilis

ochraceis adpresso-hirsutus 3 mm. longus campanulatus, dentibus remotis linearibus erectis 1.5 mm. longis; corolla in alabastro 8 mm. longa extus densissime subadpresso-pilosa, lobis oblongis acutiusculis tubo paullo longioribus.—Brazil: State of Amazonas, basin of Rio Madeira, Humayta, between Rio Livramento and Rio Ipixuna, November, 1934, *B. A. Krukoff 7230* (Herb. N. Y. Bot. Gard., type; photo. and fragment in Herb. Field Mus.).

Well marked by the form of the leaves, which are practically sessile, being abruptly contracted toward the base and long-decurrent almost to the base of the petiole.

Cephaelis madeirana Standl., sp. nov.—Arbuscula 6-metralis praeter inflorescentiam omnino glabra, ramulis sat gracilibus pallide olivaceis subteretibus, internodiis elongatis; stipulae persistentes virides in tubum truncatum 2–3 mm. longum coalitae, tubo lobis 4 linearibus erectis 3–3.5 mm. longis paullo infra marginem insertis onusto; folia mediocria brevissime petiolata submembranacea, petiolo 2 mm. tantum longo; lamina elliptico-oblonga vel elliptico-ovata 9–15 cm. longa 4–6.5 cm. lata, anguste sensimque vel subabrupte breviusque acuminata, basi obtusa vel subrotundata, supra in sicco opaca cinereo-olivacea, costa nervisque prominulis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere circiter 9 gracillimis pallidis prominentibus arcuatis angulo latiusculo adscendentibus, nervulis prominulis laxe reticulatis; inflorescentia terminalis capituliformis crasse 4 mm. longe pedunculata, dense pauciflora, circiter 3 cm. lata, bracteis ut videtur viridibus foliaceis oblongis vel anguste ellipticis 1.5–2.3 mm. longis acutis subpatentibus basi paullo puberulis, floribus paucis arcte sessilibus; hypanthium 1.5 mm. longum glabrum, calyce 3 mm. longo tubuloso-campanulato brevissime acute dentato glabro; corolla glabra ca. 13 mm. longa, tubo gracili, lobis ovatis brevibus; antherae exsertae.—Brazil: State of Amazonas, basin of Rio Madeira, Humayta, near Tres Casas, on varzea land, September–October, 1934, *B. A. Krukoff 6189* (Herb. N. Y. Bot. Gard., type; photo. in Herb. Field Mus.).

Coussarea Krukovii Standl., sp. nov.—Frutex 5.5 m. altus, trunco 3.5 cm. diam., ramis crassis olivaceis striatis glabris; stipulae (imperfectae tantum visae) 2.5 cm. longae et ultra; folia inter maxima petiolata crasse chartacea vel subcoriacea in sicco fusco-olivacea glabra, petiolo crasso 4–4.5 cm. longo; lamina cuneatim oblongo-obovata circiter 30 cm. longa atque 13 cm. lata, apice obtusa vel subrotundata et abrupte in acumen anguste triangulare 1.5 cm.

longum contracta, basin versus longe sensim cuneato-attenuata, basi ipsa acuminata, supra opaca, costa prominula, nervis lateralibus manifestis sed non elevatis, subtus fere concolor, costa elevata, nervis lateralibus utroque latere circiter 8 angulo latiusculo adscendentibus arcuatis prope marginem arcuato-conjunctis; inflorescentia terminalis 2.5 cm. longe pedunculata ut videtur capitata vel breviter spicata dense multiflora, axi 1.5 cm. longa, floribus congestis sessilibus; sepala in statu fructifero 4–5 mm. longa late triangularia obtusa vel acutiuscula striata ad apicem drupae persistentia; fructus ovali-columnaris densiuscule breviter pubescens fere 2 cm. longus 10–13 mm. latus grosse obtuse longitrorsum costatus.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, varzea land, September–October, 1936, *B. A. Krukoff 8132* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

The very large, oblong-obovate leaves and unusually large and conspicuously costate drupes are outstanding characters.

Genipa vulcanicola Standl., sp. nov.—Arbor 15–metralis, trunco fere 30 cm. diam., ramulis crassis ochraceis glabris, internodiis brevissimis; stipulae deciduae virides oblongo-ovatae obtusae extus prope basin sparse breviter hirsutae; folia petiolata chartacea, petiolo crassiusculo 1–2 cm. longo secus margines breviter hirtello vel glabrato; lamina elliptica vel oblongo-elliptica 11–12 cm. longa 4.5–6 cm. lata acuta vel obtusa, basi acuminata, glabra, supra in sicco griseo-viridis, nervis manifestis sed vix elevatis, subtus fere concolor, in axillis nervorum solemniter domatiata, costa gracili elevata, nervis lateralibus utroque latere circiter 7 angulo fere semirecto adscendentibus subarcuatis pallidis prominulis teneris prope marginem irregulariter arcuato-conjunctis, venulis manifestis sed vix elevatis laxe reticulatis; inflorescentia terminalis cymoso-corymbosa sessilis basi trichotoma circiter 4 cm. longa et aequilata vel latior, pauciflora, ramis crassis sparse hirtellis, bracteis parvis vel minutis, floribus in cymas trifloras dispositis, pedicellis florum lateralium crassis ad 1 cm. longis; calyx late campanulatus 1 cm. longus et aequilatus extus intusque glaber, truncatus et remote breviter dentatus, dentibus latissime triangularibus vix ultra 1 mm. longis; corolla alba subcoriacea extus glabra in alabastro late obtusa, tubo 1 cm. longo superne 4 mm. crasso versus basin sensim angustato, lobis patentibus rotundato-obovatis apice late rotundatis sparse ciliatis intus glabris; antherae semiexsertae.—Guatemala: In forest, Volcán Atitlán, 2,310 meters, October 24, 1934, *Alexander F. Skutch 1512* (type in Herb. Field Mus.; duplicate in herb. Arnold Arb.).

A very distinct species, somewhat similar to *G. americana* L., which has acuminate stipules, leaves with more numerous nerves, and the calyx sericeous within, besides differing in various other characters.

Hippotis mollis Standl., sp. nov.—Ramuli crassi dense breviter fulvo-hirsuti, internodiis brevibus; stipulae non visae; folia magna breviter petiolata crasse papyracea, petiolo crasso ca. 2 cm. longo dense breviter hirsuto; lamina late obovato-elliptica 15–19 cm. longa 8–10 cm. lata apice abrupte breviter acuminata, acumine ipso anguste triangulari acuto, basi acuta vel subobtusa, supra in sicco fusca sublucida ubique subdense breviter setoso-hirsuta, tactu asperula, nervis manifestis sed non elevatis, subtus pallidior, dense pilis brevibus fulvis patentibus setoso-hirsuta, costa gracili elevata, nervis lateralibus utroque latere ca. 10 angulo acuto adscendentibus versus apicem arcuatis gracilibus prominentibus prope marginem arcuato-conjunctis, venulis transversis parallelis crebris prominentibus, areolis arcte lineolatis; inflorescentiae axillares ca. 8 mm. longe pedunculatae triflorae, floribus breviter pedicellatis; hypanthium anguste turbinatum 5 mm. longum dense fulvo-hirsutum; calyx 3 cm. longus medio 7 mm. latus acuminatus uno latere ad medium fissus densissime fulvo-hirsutus; corolla ca. 4.5 cm. longa decurva, tubo sursum sensim ampliato fauce 1 cm. lato extus dense strigoso-sericeo, lobis erectis latissimis vix ultra 5 mm. longis apice subtruncatis et breviter emarginatis.—Colombia: State of Boyacá, *A. E. Lawrance 505* (type in Herb. Field Mus.).

Related to the other Colombian species, *H. albiflora* Karst., which lacks the dense, velvety tomentum of the lower leaf surface that is so prominent in the present species.

Hoffmannia riparia Standl., sp. nov.—Frutex ramosus 3-metralis, ramis crassis obtuse tetragonis glabris, internodiis brevibus; stipulae breves acutae, perfectae non visae; folia opposita magna membranacea breviter petiolata, petiolo crasso 1–2 cm. longo glabro; lamina oblongo-obovata vel obovata circiter 26 cm. longa et 8–8.5 cm. lata acuta vel breviter acuminata vel abrupte breviacuminata, basin versus e medio longe sensim attenuata et ad petiolum longe decurrens, glabra, supra in sicco viridis, costa venisque non elevatis, subtus pallidior, costa crassa prominente, nervis lateralibus utroque latere ca. 20 gracilibus angulo semirecto adscendentibus fere rectis prope marginem conjunctis, venulis paucis laxe reticulatis; flores cymosi, cymis axillaribus et ex nodis defoliatis nascentibus laxe

multifloris 5 cm. longis fasciculatis sessilibus glabris, floribus plerumque secundis, pedicellis gracilibus ad 6 mm. longis; sepala ad apicem baccae persistentia late triangularia acutiuscula vix 1 mm. longa; baccae pallide purpureae ovales vel subglobosae usque ad 8 mm. longae glabrae.—Guatemala: Colomba, Dept. Quezaltenango, beside stream in forest, 720 meters, September 24, 1934, *Alexander F. Skutch 1291* (herb. Arnold Arb., type; photo. in Herb. Field Mus.).

Although possessing no outstanding characters to mark it, this plant does not agree with any of the *Hoffmannia* species known to the writer.

Macrocnemum vestitum Standl., sp. nov.—Ramuli graciles subcompressi brunnei dense molliter pilis longiusculis pilosi, internodiis elongatis; stipulae ovales 13 mm. longae apice late rotundatae prope basin pilosae sursum glabratae; folia mediocria petiolata membranacea, petiolo gracili piloso 1–2.5 cm. longo; lamina late obovata vel fere rotundato-obovata 6–11.5 cm. longa 3.5–6.5 cm. lata apice rotundata et breviter triangulari-apiculata, basi cuneatim angustata et acuta vel late obtusa, in statu sicco fusca, supra primo graciliter pilosa serius glabrata, subtus undique ad nervos densius pilis longis pallidis mollibus pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 9 angulo lato divergentibus tenerrimis fere rectis, venulis fere obsoletis; inflorescentia axillaris ad 5.5 cm. longe pedunculata cymoso-paniculata sublaxe multiflora ca. 4.5 cm. longa e basi trichotoma, ramis densiuscule pilis brevibus subadpressis pilosis, bracteis interdum foliaceis oblongis vel lanceolatis ad 1 cm. longis, floribus mediocriter pedicellatis, pedicellis rigidis basi lanceolato-bracteolatis; hypanthium anguste clavatum 4–5 mm. longum basi acutum sparse subadpresse hispidulum; calyx fere ad basin partitus, segmentis post anthesin accrescentibus ut videtur coloratis valde inaequalibus anguste lanceolato-oblongis usque ad 8 mm. longis, versus apicem obtusum vel subacutum paullo attenuatis; corollae tubus 6–8 mm. longus crassiusculus extus paullo hispidulus vel fere glaber, lobis rotundato-ovatis ca. 5 mm. longis apice rotundatis extus glabris; stylus glaber 4–5 mm. longus; capsula juvenis anguste oblongo-clavata sparse hispidula 1 cm. longa calyce persistente coronata.—Ecuador: Pumacocha, 1857–59, *R. Spruce 6027* (type in Herb. Mus. Vienna).

Macrocnemum cuencanum Standl., the only other species reported for Ecuador, is an almost glabrous plant. *M. vestitum* is noteworthy for its abundant pubescence, and especially for the large and accrescent calyx lobes.

Manettia cephalophora Standl., sp. nov.—Volubilis, ramis herbaceis subteretibus glabris, internodiis elongatis; stipulae glabrae in vaginam latam 2–2.5 mm. longam coalitae, lobis liberis subulatis incrassatis usque ad 5 mm. longis; folia mediocria opposita breviter petiolata crasse chartacea, petiolo crassiusculo glabro 3–4 mm. longo; lamina elliptica vel oblongo-elliptica ca. 6.5 cm. longa atque 2.5 cm. lata longe anguste acuminata, basi acuta, glabra, supra in sicco fusco-olivacea, costa impressa, nervis obscuris, subtus fusco-brunnescens, costa prominente, nervis lateralibus utroque latere ca. 4 tenerrimis obscuris angulo acutissimo adscendentibus, nervulis obsoletis; inflorescentiae terminales et axillares capitatae densissime multiflorae 1–1.5 cm. latae pedunculatae, floribus sessilibus; hypanthium glabrum; calycis laciniae 4 alte connatae in statu fructifero recurvae late oblongae vel ovales apice rotundatae vel obtusissimae crassae ca. 3 mm. longae virides; capsula teres cylindrica 1 cm. longa fere 4 mm. crassa glabra longitrorsum striata, seminibus late alatis.—Brazil: Bahia, *Blanchet 1140* (Herb. Delessert, type).

In his monograph of the genus *Manettia* Wernham described two species, *M. capitata* and *M. Miersiana*, both Brazilian, with capitate inflorescence. Both were based upon specimens in flower. I have seen no material of either species, but have no doubt that the plant here described is closely related to them, although differing in its relatively broad calyx lobes. The capsule of *M. cephalophora* is so unlike that of other species of *Manettia* that the reference of the plant to this genus is decidedly questionable. If the fruit of *M. capitata* and *M. Miersiana* should prove to be like that of *M. cephalophora*, it is probable that these species will have to be segregated as a distinct genus.

Palicourea affinis Standl., sp. nov.—Arbuscula 5.5 m. alta, ramulis crassis teretibus minute sparse puberulis vel fere glabris, internodiis elongatis; stipulae persistentes erectae basi breviter connatae, laciniis utroque latere 2 anguste oblongo-lanceolatis attenuatis 1 cm. longis suberectis glabris; folia mediocria breviter petiolata opposita subcoriacea, petiolo crasso 4–7 mm. longo; lamina oblongo-elliptica 13–18 cm. longa 6.5–9 cm. lata, apice subabrupte acuta vel acutiuscula, basi obtusa vel rotundata, supra in sicco lucida lutescenti-olivacea, costa elevata, nervis prominulis, glabra, subtus paullo pallidior, ad costam nervosque hispidula, aliter glabra vel glabrata, costa crassa elevata, nervis lateralibus utroque latere ca. 11 prominentibus valde arcuatis, nervulis obscuris transversis non reticulatis; inflorescentia terminalis 8.5 cm. longe

pedunculata corymbiformis dense multiflora ca. 7 cm. alta et 9 cm. lata, fastigiato-ramosa, ramis dense hispidulis valde adscendentibus basi bracteis linearibus vel subulatis ad 8 mm. longis fulcratis pedicellis erectis 3–5 mm. longis dense hispidulis; calyx late campanulatus 2 mm. longus puberulus vel glabratus persistens; fructus 4–5 mm. longus ovoideus apice constrictus glabratus valde costatus. —Brazil: State of Amazonas, basin of Rio Madeira, Humayta, on plateau between Rio Livramento and Rio Ipixuna, on campinarana, November, 1934, *B. A. Krukoff 7280* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

A relative of **Palicourea verrucosa** (Muell. Arg.) Standl., comb. nov. (*Psychotria verrucosa* Muell. Arg.).

Pentagonia grandiflora Standl., sp. nov.—Folia (perfecta non visa) maxima crasse papyracea glabra integra, petiolo non viso, lamina 125 cm. longa et 100 cm. lata, nervis lateralibus subtus valde elevatis, costa crassissima valde elevata; flores dense aggregati sessiles rubri, bracteis late ovatis vel oblongo-ovatis ca. 6 cm. longis, dorso minute sparse sericeis vel glabratis; calyx tubulosus 5.5–6 cm. longus extus minute sparse sericeus, superne sensim dilatatus, lobis suberectis oblongo-ovatis 1.5–2 cm. longis obtusis; corolla 6 cm. longa extus sparse minute sericea vel fere glabra, tubo 5 mm. lato superne vix dilatato, lobis oblongo-triangularibus 5 mm. longis acutiusculis intus ad marginem apicemque papilloso-villosulis.—Ecuador: Río Cojumíes (?), above tidewater, in 1921, *W. W. Rowlee & George Mixter 1271* (U. S. Nat. Herb., type).

The type consists of two sheets, one with well preserved flowers and inflorescences, the other with a badly dried and badly mounted leaf, or rather a part of the leaf, with the petiole missing. Although little is known regarding the leaf characters, which are of importance in separating the species of *Pentagonia*, the flowers are almost twice as large as those of any member of the genus previously described.

Plocaniophyllon flavum Brandeg. Univ. Calif. Publ. Bot. 6: 69. 1914.

The genus consists of a single species, based upon a plant collected in the State of Chiapas, Mexico, by Dr. C. A. Purpus. A second collection is now available: Mount Orando, Chiapas, December, 1936, *E. Matuda 418* (herb. Univ. Michigan). In the *North American Flora* (32: 139. 1921) the writer placed the genus in the tribe Mussaendeae, chiefly upon the basis of the curious striolate nervation (*Moireestreifung*) of the leaves, a character known otherwise only

in that tribe, in such genera as *Sommera* and *Pentagonia*. At that time mature fruit was not available for study. The Matuda collection bears ripe capsules, which make it impossible to refer the plant to the Mussaendeae, in which the fruit is fleshy. Apparently *Plocaniophyllon* must be placed in the tribe Condamineeae, where it does not appear to be closely related to any other group, and is at once recognizable by the leaf striolation.

Pogonopus speciosus (Jacq.) Schum.—This handsome shrub or small tree, noteworthy for having some of its calyx lobes greatly enlarged, foliaceous, and brilliant red in color, has a wide range in tropical America, but is not common in most parts of Central America. It has been collected recently as far north as Mexico: Escuintla, Chiapas, December, 1936, *E. Matuda 560* (herb. Univ. Michigan).

Psychotria Krukovii Standl., sp. nov.—Frutex 2.5 m. altus, ramulis subteretibus ferrugineis densissime pilis patentibus ferrugineis hirsutis, internodiis brevibus vel elongatis; stipulae cito deciduae ferrugineae ca. 12 mm. longae oblongo-ovatae acuminatae extus dense ferrugineo-pilosae; folia breviter petiolata mediocria vel magna papyracea, petiolo crasso 4–10 mm. longo dense hirsuto; lamina anguste oblonga vel lanceolato-oblonga prope medium latissima 12–21 cm. longa 3.5–6.5 cm. lata et ultra, sensim longiacuminata, basi acuta vel anguste obtusa, supra in sicco cinerascens ad costam breviter hispidula aliter glabra, costa nervisque subimpressis, subtus undique ad venas densius breviter pilis ferrugineis hirsuta, costa gracili elevata, nervis lateralibus utroque latere ca. 15 gracilibus elevatis adscendentibus arcuatis, nervulis prominulis laxe reticulatis; inflorescentiae terminales atque pseudolaterales 1.5–2.5 cm. longe pedunculatae cymoso-paniculatae densissimae 2–2.5 cm. longae basi trichotomae, ramis brevibus densissime ferrugineo-pilosis, floribus sessilibus dense aggregatis, bracteis parvis angustis pilosis; hypanthium dense ferrugineo-pilosulum, calycis dentibus brevibus obtusis; corolla extus glabra vix ultra 2 mm. longa, lobis latis patentibus tubo subaequilongis intus glabris; stamina exserta, antheris oblongis 0.8 mm. longis.—Brazil: State of Amazonas, basin of Rio Madeira, Humayta, near Tres Casas, on low terra firma, September–October, 1934, *B. A. Krukoff 6172* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.); also *No. 6509* from the same region.

Noteworthy in the subgenus *Mapouria* for the very narrow, short-petiolate leaves and the abundant, rusty pubescence.

Psychotria paulina Standl., sp. nov.—Herba(?) vel frutex omnino glaber, ramis ut videtur crassis; stipulae fere ad basin bilobae, segmentis 1 cm. longis vel ultra acuminatis semiovatis striatis; folia inter maxima petiolata firme membranacea, petiolo crasso fusco fere 4 cm. longo; lamina late obovato-elliptica 27–33 cm. longa 14–15 cm. lata apice late rotundata et brevissime apiculato-acuminata, basi cuneato-acuta, supra in sicco fusca, nervis pallidis prominulis, subtus pallidior, viridis, costa gracili prominente, nervis lateralibus utroque latere circiter 21 angulo recto divergentibus valde arcuatis teneris marginem attingentibus, inter venulas minute verruculosa, venulis inconspicuis vix prominulis laxe reticulatis; inflorescentia terminalis capituliformis graciliter 13 cm. longe pedunculata, dense multiflora 3 cm. longa 4 cm. lata, bracteis exterioribus ut videtur rubris lanceolato-ovatis longiacuminatis fere 2 cm. longis, interioribus brevioribus latis, floribus sessilibus vel brevissime pedicellatis; calyx ad apicem fructus persistens 1.5 mm. longus irregulariter breviter lobatus, lobis obtusis vel subacutis; fructus didymo-ovoideus 5 mm. longus et fere aequilatus, pyrenis 2 facie commisurali leviter anguste canaliculatis dorso obtuse 5-costatis.—Brazil: State of Amazonas, São Paulo de Olivença, on terra firma, July, 1936, *B. A. Krukoff 7839* (type in herb. N. Y. Bot. Gard.).

Randia mollifolia Standl., sp. nov.—Ut videtur inermis, ramulis teretibus in sicco striatis ochraceis densiuscule griseo-hirtellis, internodiis superioribus brevibus; stipulae deciduae e basi late triangulari anguste acuminatae 7 mm. longae extus prope basin sparse hirtella, interdum ad 2 cm. longae; folia inter maxima petiolata firme membranacea, petiolo gracili 2–3.5 cm. longo dense hirtello; lamina forma variabilis, late ovata, ovato-elliptica vel latissime elliptica, 13–23 cm. longa 7.5–14.5 cm. lata, acuta vel subacuminata, basi obtusa vel rotundata et subito contracto-decurrens, supra in sicco griseo-fusco-viridis, densissime glanduloso-puberula et dense breviter molliter pilosa, nervis manifestis, subtus densissime cano-tomentosa, nervis lateralibus utroque latere ca. 12 angulo latiusculo adscendentibus arcuatis; fructus crasse 5 cm. longe pedunculatus ovali-globosus 4.5 cm. longus 3.5 cm. latus apice crasse apiculatus glaber.—Mexico: Saguaribo, Río Mayo, Sonora, on talus slope at cliff base in high, dark canyon, 1,650 meters, November 3, 1935, *Howard Scott Gentry 2139* (type in Herb. Field Mus.).

Vernacular name Sapuchi de la sierra. Similar in general characters to *R. Watsoni* Robinson, in which the branches are armed with spines, and the leaves much smaller and short-petiolate.

Retiniphyllum cearense Standl., sp. nov.—Ramuli subteretes densissime hispiduli ad nodos plus minusve resinosi, internodiis 1–3 cm. longis; stipulae in vaginam brevem subtruncatam dense hispidulam connatae; folia parva breviter petiolata coriacea, petiolo 2–3 mm. longo crasso; lamina oblongo-elliptica vel interdum oblongo-obovata 3–4.5 cm. longa 1.5–2.5 cm. lata obtusa vel acutiuscula, basi obtusa, supra sublucida ad costam hispidula, secus margines scaberula, nervis obsoletis, subtus dense scaberulo-hispidula, pilis subpatentibus albidis, costa crassa elevata, nervis lateralibus utroque latere ca. 6 obscuris; flores terminales subcapitati pauci sessiles, involucello parvo disciformi subintegro; hypanthium obovoideum 3 mm. longum scaberulum; calyx campanulatus 5–6 mm. longus ore 4 mm. latus hispidulus brevissime obtuse dentatus; corolla extus sericea, tubo cylindraceo 23 mm. longo 2.5 mm. lato, lobis oblongis 8–10 mm. longis patentibus vel reflexis obtusis intus sericeis; stamina in apice tubi inserta lobis corollae duplo breviora, filamentis crassiusculis adpresso-pilosis.—Brazil: Province de Ceará, in 1838, *Gardner 156* (Herb. Delessert, type).

The genus *Retiniphyllum* is a small and well marked one, isolated within the family, its previously known species occurring in Amazonia, Venezuela, and British Guiana. The species here described represents a considerable extension from the previously known range of the group. It is related to *R. erythranthum* Standl., of Mount Duida, Venezuela, in which the leaves have only a sparse pubescence of closely appressed hairs.

Rudgea Garciana Standl., sp. nov.—Ramuli crassiusculi ochracei plus minusve striati et rimosi, internodiis elongatis glabris; stipulae in vaginam brevem latam conjunctae induratae apice late rotundatae vix ultra 2.5 mm. longae dorso paullo infra apicem setis numerosis rigidis pallidis 3.5 mm. longis onustae; folia mediocria glabra breviter petiolata crasse coriacea, petiolo crasso 7–10 mm. longo; lamina oblonga vel oblanceolato-oblonga ca. 11 cm. longa et 3.5–4 cm. lata subacuta, apice ipso obtuso, basi acuta, supra in sicco fusca, costa impressa, nervis manifestis sed vix elevatis, subtus multo pallidior, costa crassa elevata, nervis lateralibus utroque latere ca. 12 arcuatis angulo semirecto vel latiore adscendentibus prominentibus gracilibus, venulis manifestis sed parum elevatis laxe reticulatis; inflorescentia glabra terminalis cymose circiter 4-flora erecta 2 cm. longe pedunculata, bracteis parvis deciduis, pedicellis crassiusculis ad 1 cm. longis; hypanthium columnari-turbinatum 3 mm. longum; sepala fere libera 5–6 mm. longa lineari-oblonga

attenuata; corolla glabra 3.5–4 cm. longa, tubo superne sensim dilatato fauce 5 mm. lato, lobis tubo aequilongis lineari-oblongis apice 1.5–2 mm. longe corniculatis, appendicibus filiformibus.—Peru: "Achapatumam, 1787" (Achapata, Puno?), *Ruiz & Pavón* (type in herb. Madrid).

Labeled by the collectors, "An Posoqueriae species?" In most of its characters the plant is quite unlike any other species of *Rudgea* known from the Peruvian region. It is noteworthy especially for its handsome, coriaceous leaves and very large flowers. The species is dedicated to Dr. Antonio García Varela, Director of the Jardín Botánico of Madrid.

Rudgea Krukovii Standl., sp. nov.—Frutex 4.5 m. altus, ramulis crassis ochraceo-olivaceis obtuse subtetragonis glabris, internodiis elongatis; stipulae persistentes crassae ovato-rotundatae 6–7 mm. longae valde costatae multilaciniatae, setis incrassatis pallidis; folia magna breviter petiolata coriacea, petiolo crasso ca. 12 mm. longo; lamina elliptica vel oblongo-elliptica ca 20 cm. longa et 10 cm. lata, acuminata vel breviter subabrupte acuta, basi acuta vel anguste obtusa, supra in sicco lutescenti-viridis lucida glabra, costa nervisque profunde impressis, subtus pallidior aspera scaberula, costa elevata, nervis lateralibus utroque latere ca. 8 elevatis arcuatis angulo latiusculo adscendentibus juxta marginem conjunctis, nervulis prominentibus laxe reticulatis; inflorescentia terminalis 3 cm. longe pedunculata cymoso-paniculata ca. 4.5 cm. longa et 5.5 cm. lata, ramis crassis breviter pilosis, basalibus 4 patentibus 1–1.5 cm. longis, cymulis paucifloris densis, floribus sessilibus, bracteis lanceolatis calycem aequantibus; calycis laciniae lineari-lanceolatae attenuatae puberulae erectae ca. 1.5 mm. longae; corolla in alabastro obtusa 7 mm. longa papilloso-puberula, lobis patentibus tubo subaequilongis intus minute puberulis, tubo in fauce dense albo-barbato; stamina breviter exserta, filamentis ad faucem insertis glabris, antheris lineari-oblongis 1.8 mm. longis.—Brazil: State of Amazonas, basin of Rio Madeira, Humayta, near Tres Casas, on varzea land, September–October, 1934, *B. A. Krukoff 6173* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

A relative of *Rudgea paniculata* Benth.

Rudgea palmarum Standl., sp. nov.—Frutex 1.5 m. altus omnino glaber, ramis teretibus glabris gracilibus olivaceis, internodiis plerumque elongatis; stipulae parvae 2–3 mm. longae fere ad basin 3–5-fidae, lobis filiformibus pallidis corneis, persistentes;

folia parva brevissime petiolata crasse membranacea, petiolo usque 2 mm. tantum longo; lamina anguste oblongo-lanceolata 7–11 cm. longa 1.5–3 cm. lata longe anguste attenuata, apice ipso obtuso, basin acutam versus sensim attenuata, supra in sicco fusco-olivacea lucida, costa elevata, nervis obscuris vix prominulis, subtus paullo pallidior sublucida, costa gracili prominente, nervis lateralibus utroque latere 8–9 tenerrimis angulo semirecto adscendentibus subarcuatis prope marginem irregulariter laxe arcuato-conjunctis, venulis vix prominulis laxe reticulatis; flores cymoso-paniculati, panicula terminali graciliter 2–3 cm. longe pedunculata circiter 3 cm. lata et aequilonga laxe pauciflora, bracteis minutis vel obsoletis, pedicellis gracillimis plerumque 3–5 mm. longis; hypanthium turbinatum 1.5 mm. longum, calyce campanulato 1.2 mm. longo viridi breviter inaequaliter dentato, dentibus acutiusculis; corolla glabra in alabastro apice rotundata, tubo 7 mm. longo fauce dilatato, lobis ovato-oblongis acutis patentibus 3 mm. longis intus minute puberulis; antherae lineares semiexsertae; fructus subglobosus circiter 13 mm. diam.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, terra firma, on low land, September–October, 1936, *B. A. Krukoff 8117* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.), *8561*.

Rudgea singularis Standl., sp. nov.—Frutex 1.8 m. altus praeter inflorescentiam omnino glaber, ramis gracilibus subteretibus fusco-olivaceis, internodiis elongatis; stipulae magnae virides lanceolato-oblongae 3.5 cm. longae 9 mm. latae parallele venosae apice profunde trifidae, lobis lateralibus brevibus, terminali longe filiformi-attenuato; folia magna petiolata papyracea, petiolo crassiusculo circiter 2 cm. longo; lamina oblongo-elliptica 18–26 cm. longa 6–8 cm. lata longissime anguste attenuato-acuminata, basi acuta et breviter subdecurrens, supra in sicco olivacea opaca vel lucida, costa nervisque prominentibus, subtus concolor, costa gracili elevata, nervis lateralibus utroque latere circiter 12 teneris angulo lato adscendentibus valde arcuatis juxta marginem arcuato-conjunctis, venulis prominentibus laxe reticulatis; inflorescentiae ut videtur axillares (an pseudo-axillares?) circiter 12 cm. longe graciliter pedunculatae laxe cymoso-paniculatae ut videtur pendentes, circiter 5 cm. longae et aequilatae, ramis divaricatis gracilibus in sicco fuscis sparse minute puberulis, bracteis minutis vel obsoletis, pedicellis brevibus crassiusculis; flores in sicco nigri glabri, hypanthio columnari 1 mm. longo, calyce vix ultra 0.5 mm. longo inaequaliter breviter dentato; corolla in alabastro apice brevissime 5-cornuta, tubo gracili 5–6 mm.

longo fauce vix dilatato, lobis brevissimis circiter 0.5 mm. longis late ovatis.—Brazil: State of Amazonas, São Paulo de Olivença, basin of Belem Creek, terra firma, in high forest, October–December, 1936, *B. A. Krukoff 8804* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

The material is rather unsatisfactory for study, especially as regards the inflorescence, but the large leaves and peculiar stipules seem to indicate a species unlike any other known from the Amazon Valley.

Tocoyena megistantha Standl., sp. nov.—Arbor humilis; folia maxima brevissime petiolata crasse membranacea, petiolo crasso 1.5 cm. longo glabro; lamina oblanceolato-oblonga ca. 36 cm. longa 13.5 cm. lata, apice non viso, basin versus longe sensim attenuata, basi ipsa acute cuneata, glabra vel supra sparse pallido-hirsuta, in sicco fusca, costa crassiuscula, nervis lateralibus utroque latere ca. 20 angulo fere recto divergentibus arcuatis prope marginem arcuato-junctis; flores ad apicem rami congesti numerosi sessiles; hypanthium glabrum oblongum 7 mm. longum teres; calyx tubuloso-campanulatus 6 mm. longus glaber, lobis usque 8 mm. longis e basi triangulari longe filiformibus suberectis; corolla alba extus sparse minute puberula, tubo angustissimo ca. 28 cm. longo medio 2.5 mm. crasso fauce paullo dilatato, ore 8 mm. lato, lobis 5 lanceolato-linearibus patentibus 5.5–8 cm. longis longe sensim attenuatis 7–9 mm. latis intus minutissime puberulis; antherae semiexsertae.—Colombia: Margarita Creek, vicinity of Barranca Bermeja, between Sogamoso and Colorado rivers, Department of Sur de Santander, 100–500 meters, September 11, 1934, *Oscar Haught 1360* (type in Herb. Field Mus.; duplicate in U. S. Nat. Herb.).

The flowers are extraordinary for their exaggerated length, in this respect having few rivals in any group of Rubiaceae.

CUCURBITACEAE

Corallocarpus hypoleucus Standl., sp. nov.—Scandens, caulibus gracilibus ochraceis subangulatis striatis glabris, internodiis elongatis; folia longipetiolata crasse membranacea, petiolo 2–3.5 cm. longo pallido sparse minute hirtello vel glabrato; lamina ambitu rotundata vel deltoideo-rotundata ad medium triloba, basi profunde cordata, sinu lato aperto, 7–13 cm. longa 8–15 cm. lata, lobis latis acuminatis ad anguste rotundatis, terminali integro, lateralibus basi rotundato-auriculatis, supra in sicco viridis glabra laevis,

subtus grisea vel albida densissime pilis minutis subadpressis tomentulosa, basi 3-nervia; fructus globoso-ovoideus 6 cm. longus 5 cm. latus, basi late rotundatus, apice obtusus vel rotundatus et stylo persistente umbonatus, glaber, pedunculis axillaribus solitariis simplicibus 1.5 cm. longis crassis.—Mexico: On road near La Sabana, south of Acapulco, Guerrero, 60 meters, August 25, 1935, *L. H. MacDaniels 266* (type in Herb. Field Mus.).

The type of this species was found in a valuable collection of Mexican plants forwarded to Field Museum for determination by Dr. L. H. Bailey.

COMPOSITAE

Vernonia Taylorae Standl., sp. nov.—Herba perennis 30–40 cm. alta vel ultra, caulibus rigidis erectis simplicibus vel pauciramosis striatis interdum purpureo tinctis sat dense breviter griseo-villosulis, internodiis foliis brevioribus; folia subsessilia rigide herbacea, petiolo vix ultra 2 mm. longo; lamina lanceolata vel in foliis inferioribus oblanceolato-oblonga 5–7.5 cm. longa 1.5–2.5 cm. lata acuta vel saepius longiattenuata, basi obtusa, remote dentato-serrata vel interdum subintegra, supra in sicco fusco-viridis aspera scabra et sparse subvillosula, nervis non elevatis, subtus paullo pallidior ubique dense glanduloso-punctata ad nervos venasque pilis parvis stipitatis stellato-tomentosa, in areolis scabra, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 7; capitula pauca (ca. 8) corymbosa, pedunculis rigidis 1.5–3.5 cm. longis suberectis dense puberulis vel brevissime villosulis; involucrum campanulatum 1 cm. longum 1.5 cm. latum basi rotundatum, phyllariis numerosis gradatim imbricatis adpressis in sicco fusco-purpureis lanceolato-oblongis acuminatis glabratis villoso-ciliatis; flores numerosi ut videtur purpurei; achaenia circiter 50 glandulosa et sparse puberula 1.5 mm. longa, setis pappi rigidis 7 mm. longis antrorse scaberulis.—Mexico: Hacienda Pablillo, Galeana, Nuevo León, July 30, 1936, *Mary Taylor 9* (type in Herb. Field Mus.).

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